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OLDEST AGRICULTURAL AND LIVE STOCK JOURNAL IN THE MISSISSIPPI VALLEY

Sixty-Seventh Year.

ST. LOUIS, MO., MAY 21, 1914.

Volume LXVII. No. 21.



Co. Sup't of Pub.
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IN THE POULTRY YARD

HOW TO SET A HEN

As the time approaches for a hen to sit it will be seen that there are a few soft, downy feathers being left in her nest; also she stays longer on her nest, and on being approached, will quite likely remain there, making a clucking noise and ruffling her feathers. When a hen sits on her nest from two to three nights in succession, and it is seen that most of the feathers are gone from her breast (which should feel hot to the hand) she is ready to be transferred to a nest which has been prepared for her beforehand.

The normal temperature of a hen is from 106 degrees to 107 degrees F., which varies slightly during incubation. Dust the hen thoroughly with insect powder, and in applying the powder hold the hen by the feet, the head down, working the powder well into the feathers, giving special attention to regions around the vent and under the wings. The powder should also be sprinkled in the nest. The nest should be in some quiet, out-of-the-way place, where the sitting hen will not be disturbed. Move her from the regular laying nest at night and handle her carefully in doing so. Put a china egg or two in the nest where she is to sit, and place a board over the opening so that she can not get off.

Toward the evening of the second day quietly go in where she is sitting, leave some feed and water, remove the board from the front or top of the nest, and let the hen come off when she is ready. Should she return to the nest after feeding, remove the china egg or eggs and put under those that are to be incubated. If the nests are slightly darkened the hens are less likely to become restless. At hatching time they should be confined and not be disturbed until the hatch is completed, unless they become restless, when it may be best to remove the chicks that are hatched first. In cool weather it is best not to put more than 10 eggs under a hen, while later in the spring one can put 12 to 15, according to the size of the hen.

If several hens are sitting in the same room, see that they are kept on the nests, only allowing them to come off once a day to receive feed and water, the feed to consist of corn, wheat, or both. If there are any that do not desire to come off themselves, they should be taken off. Hens usually return to their nests before there is any danger of the eggs chilling, but if they do not go back in half an hour in ordinary weather, they should be put on the nest.

Where a large number of sitters are kept in one room it is advisable to let them off in groups of from four to six at a time. The eggs and nests should be examined and cleaned, removing all broken eggs and washing those that are soiled; in the latter case the soiled nesting material should be removed and clean straw added. Nests containing broken eggs that the hen is allowed to sit on soon become infested with mites and lice, which cause the hens to become uneasy and leave the nest, often causing the loss of valuable settings of eggs. In mite-infested nests, the hen, if fastened in, will often be found standing over rather than sitting on the eggs.

Many eggs that are laid in the late winter and early spring are infertile. For this reason it is advisable to set several hens at the same time. After the eggs have been under the hens from five to seven days, the time depending somewhat on the color and thickness of the shells—white shelled eggs being easier to test than those having brown shells—they should be tested, the infertile eggs and dead germs removed, and the fertile eggs put back under the hen. In this way it is often possible to put all the eggs that several hens originally started to sit on under fewer hens and reset the others. For example, 30 eggs are set under three hens at the same time, 10 under each. At the end of seven



days we find on testing the eggs from all the hens that 10 are infertile, which leaves us 20 eggs to reset, which we do by putting them under two hens, and have the remaining hen sit over again after she has sat only seven days. In this way considerable time can be saved in one's hatching operations.

"Natural and Artificial Incubation of Hens' Eggs" (Farmers' Bulletin 585) is the title of a new bulletin, which can be had free on application to the United States Department of Agriculture. It emphasizes the fact that strong, fertile eggs are the first thing to be desired to produce a good



A YOUTHFUL FANCIER.

hatching. These are obtained only from stock properly mated and kept under the best possible conditions. Eggs from over-fat breeding stock do not produce many strong chicks. If breeders are confined they should be fed a varied supply of grains, meat and green feed. Free range is usually an important factor in the production of hatchable eggs. It is much easier to keep up the vitality of stock handled in this manner than in birds that are confined in a yard.

From 8 to 12 females of the American or general-purpose class, and 12 to 15 of the Mediterranean class, can be mated with one male, depending on his age and vitality and where the fowls are yarded, but this proportion may be increased where the birds have free range. Abundant ventilation in the house is also a great help in keeping the stock in good breeding condition.

Select Uniformly Large Eggs.

To secure uniformity in the offspring and increase the size of the eggs it is a good plan for the poultry raiser to select uniformly large eggs of the same color for hatching. Small eggs and those poorly shaped, or with thin shells, should not be used. While stale eggs will frequently hatch, it is best to use only eggs which are under two weeks old.

Dirty eggs should be cleaned by rubbing lightly with a damp cloth, but care should be taken not to rub off any more of the natural bloom of the egg than is absolutely necessary. Duck eggs usually require washing, which does not appear to injure their hatching qualities. Eggs for hatching should be collected two or three times a day in freezing weather to prevent chilling. Broody hens allowed to sit on eggs in the laying nests all day may hurt the hatching qualities of the eggs.

Eggs in large numbers are generally kept in a cabinet or turning rack, for convenience in handling, in a room where the temperature is between 50 degrees and 60 degrees F.,

if possible, although they will stand considerable variation. It is not necessary to turn eggs kept only for a few days, but it is advisable to turn eggs daily which are over a week old. Various commercial turning devices are sold by poultry supply companies, or the eggs may be kept in cabinet drawers and shuffled about with the hands by removing a few eggs from the trays. Commercial egg cases are sometimes used for holding the eggs for hatching.

Eggs from different varieties of the same class of poultry may be incubated together, but it is not advisable to mix eggs from the Mediterranean or egg breeds, such as Leghorns and Minorcas, with Plymouth Rocks or Orpingtons, as the eggs from the smaller breeds often hatch a little earlier than those from the larger breeds. Neither the hen nor the incubator will hatch strong chickens from weak germs or from eggs which have not received proper care.

fective.

Eggs are also shipped safely almost any distance by packing them in a stiff pasteboard carton or box made for this purpose, the space around the egg being filled with either chaff or bran. This package is then placed in a basket, the bottom and sides of which are lined with excelsior, and the spaces at either end of the box are packed with the same material. On top of this package is placed more excelsior and all is covered with cloth, as previously mentioned. Extra stiff cardboard cartons made to hold from one to several settings are used in which to ship eggs. These cartons or egg boxes are fitted with a handle for carrying, similar to that on a market basket. Bushel baskets are commonly used to ship orders of from 10 to 12 settings of eggs, the manner of packing and covering being the same as mentioned in the first method. It is customary to rest eggs for hatching for about 12 hours after they are received to allow the germ to regain its normal position before the eggs are placed in the incubator.

Best Time to Hatch Chickens.

April is one of the best months to hatch chickens. Chickens should not be hatched later than May 15, in the latitude of Washington, if the pullets are desired for fall-egg production. An earlier date would complete the time for hatching farther south. The smaller breeds may be hatched later than larger ones, as they mature about a month earlier. February and March are also good months to hatch chickens, depending somewhat upon the climatic conditions, for chickens are hard to raise in cold, wet, or hot weather.

Period of Incubation.

The period of incubation varies with different species of poultry, as shown in the accompanying table:

Kind of Poultry.	Days.
Hen	21
Pheasant	22-24
Duck	28
Duck (Muscovy)	33-35
Turkey	28
Peafowl	28
Guinea	26-28
Ostrich	42
Goose	30-34

The period of incubation varies somewhat with conditions, so that a hatch may run one or two days over in some cases, due to an accident during incubation or to a low temperature throughout that period, while, on the other hand, it may come off earlier. If through any accident the eggs are chilled or overheated, it is advisable to continue the hatch, testing the eggs after a few days to determine the extent of the damage. Chickens have been hatched from eggs left out of the incubator all night, as well as from eggs which have been subjected to a temperature of over 110 degrees F., for a short time.

Beet growers or Alpaugh, Tulare county, representing over 2,000 acres of sugar beets, have organized and elected H. L. Wilson, president; John H. Callister, secretary.



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CREAM of the DAIRY NEWS

RAISING THE CALF ON SKIM MILK.

Cream or butterfat is by no means a valuable calf food. If calf raisers would only realize this there would be far less whole milk fed to calves, and a more general use would be made of skim milk. After all, cream or butterfat in a calf ration only serves to keep up body heat or perhaps to produce a little body fat. It is not used to produce bone, muscle, or growth in the young calf, as is commonly supposed. At the present price of butterfat it can be substituted much more cheaply by cornmeal or other grain with fully as good results.

It is imperative that the calf must have the colostrum or first milk of the mother. Nature intended this milk to act as a physic and to stimulate the digestive system of the calf. Therefore, the calf should suck the cow until the milk is fit for use. Then the earlier the calf is taken from the cow the easier it is to teach it to drink.

For the first two weeks about five or six quarts or, in other words, about 10 to 12 pounds of milk per day should be fed, preferably in three feeds. As the calf grows older the amount should be increased until nine or 10 quarts per day are fed. The milk should be uniform in temperature, the utensils clean and the feeding regular. Nothing will throw a calf off feed quicker or cause scours sooner than irregular feeding, dirty pails, or intermittent feeding of warm and cold milk. By the time the calf is two weeks old it is ready to begin taking skim milk. At first dilute the whole milk with a little skim milk and at each feeding increase the amount slightly until at the end of the week the calf is on a full ration. Do not think that because the cream is removed that the calf needs more skim milk than whole milk. Do not overfeed, but rather keep the calf just a little hungry. His appetite will be better and his health will be better.

Teach the calf to eat grain as soon as possible. This can be done by putting a handful of meal in its mouth after feeding milk or by rubbing its wet muzzle with corn meal or bran. Only a few times is necessary for it soon learns to look for meal and will then eat it from a box. For awhile keep grain before the calf and then as it learns to eat remove and feed grain after the milk each time. Feed only what the calf will clean up in a few minutes. As a general rule, when a calf is eight weeks old it should be eating about one-half pound per day; at two months a pound; and at four months two pounds per day. This amount need not be increased up to six months.

The calf raiser must determine the supplement that he is to feed by local conditions, available feeds, and market value of same. It is seldom necessary to buy feeds not grown on the farm. As a rule, home grown feeds are the cheapest. Since the fat is removed from the milk it is logical to suppose that the supplement fed should be high in fat. Experiments have proven this assertion and as a result corn meal has been found to be one of the most satisfactory and cheapest supplementary feeds. Corn meal alone with skim milk although excellent can be improved by the addition of ground oats. A mixture of three parts corn meal and two parts ground oats proves very satisfactory. Another good grain mixture is composed of three parts corn meal, three parts ground oats, and one part bran. About weaning time the following is an excellent mixture: three parts ground corn, three parts ground oats, one part bran, and one part oil meal. The bran and oil meal while expensive are laxative and tend to keep the digestive system in good shape. Moreover they are both high in protein, which goes to make body growth and development.—Farmers' Guide.

THE BREEDER OF THE FUTURE.

"Nothing is clearer than that the successful breeder of the future will be a bookkeeper and a statistician."



This statement was made some time ago by E. Davenport, Dean of the Illinois College of Agriculture. Of course, he did not mean the breeder may carry on his work by noting simply the records of his cows, but rather the successful breeder will keep records of his cows and use them in directing his breeding operations. There is the well recognized dairy form, a form that is adapted to dairy work. While a person may determine from the conformation whether the animal is of dairy or beef breeding, yet there is no one who can determine from appearance how much work a cow can do by looking at her.

Intelligent people give expression by their manners, speech and behavior of a certain amount of their attainments. But the worth of a person must be measured by what he can do and not by appearance. He must work and his work must be measured. So with the cow she must work, and her efficiency must be measured by the scale and the Babcock test. We have many cows capable of producing more than 500 pounds of fat in a year and some that have produced 1,000 pounds. We have tried to see something in the 1,000-pound cow that the 500-pound cow did not have, but so far we have observed nothing to help us judge the exact productive capacity of the cow. We can see nothing to help us distinguish the 300-pound cow and the 500 or the 1,000-pound cow.

A noted breeder and judge of dairy cattle was asked a year or two ago to place a herd of 50 cows in position as to their ability to produce fat. He arranged them according to his ideas of their abilities. The scale and the test were used to prove his judgment. When the records were completed a cow which he had placed well toward

the bottom of the herd made a world's record and became the champion of the breed to which she belongs. This and many other instances may be cited to show that the future breeder will be a bookkeeper and a statistician.—Hoard's Dairyman.

MILK AND CALF.

Prof. W. J. Fraser of the Indiana station reports a series of three tests conducted to demonstrate the value of milk in calf growing and to ascertain the minimum amount of milk necessary to insure to the calves a satisfactory start in life.

The first test was preliminary and indicated that during the first two weeks the calves must be fed with a reasonable amount of milk containing about 3 per cent of butterfat, this to be gradually changed to skim milk, the calves receiving practically all their nourishment up to eight weeks from the milk. Following this, a grain supplement may be fed.

The results of the second test indicated that it is possible to grow the calves on a moderate amount of milk, the average amount required being 162 pounds of whole milk and 435 pounds of skim milk. These calves made an average gain of 65 pounds during the first 70 days of their lives.

During the third test more whole milk was fed, but it was found to be unnecessary. The cost of the milk fed to each calf varied from \$1.61 to \$4.62, which is considered comparatively low. The authors suggest the value of choice alfalfa hay in calf growing.

IS THERE MONEY IN DAIRYING FOR YOU?

There is, and here is the answer: Co-operate with your neighbors in the ownership of a Babcock testing outfit. Weigh the milk of each cow at each milking and test once a week. This will enable you to brand the cow or cows which are not paying for their place in your herd.

Dispose of the cow or cows which have failed at the end of the year to pay what the best market would give you for her feed.

From those which have returned most in the production of milk and butterfat, raise heifer calves; feed them liberally, and milk them regularly.

Breed these heifers at the age of 15 to 20 months to pure bred dairy sires from cows whose records show large and profitable productions of milk and butterfat.

Feed one pound of grain daily for every pound of fat produced weekly and with this, 30 to 35 pounds of good clean corn silage and all the clover or alfalfa hay they will clean up.

Keep these cows in clean, light stables with plenty of fresh air. If possible brush the cows each day for it pays better than does the grooming of your horses.

Do not expose your sensitive dairy types to cold stormy weather. Allow your cows two months' rest between lactation periods.

Obtain bulletins and literature from your agricultural college or the government department of agriculture and keep posted on the best and most modern methods of managing your dairy herd.—Robert A. Lamson, Assistant in Dairying, Idaho Experiment Station.

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Cattle

HOW TO USE ANTI-HOG-CHOLERA SERUM.

At a recent conference of Federal and state officials in charge of hog cholera work the methods of applying the serum in practice were considered. There are two methods. In one the serum alone is used, producing immunity lasting from 30 to 90 days; in the other the virus of hog cholera and the serum are injected simultaneously—that is, virus at one point and serum at another. This latter is known as the "simultaneous method" and will produce active or lasting immunity. If the serum used in this simultaneous treatment is not good, or if the mode of application is faulty, disease may be set up in the treated herd. For this reason it was the general consensus of opinion at the conference that the simultaneous method should be used only by those who have had special training, and it was agreed that the ideal arrangement would be to allow its use only by Federal and state veterinary officers.

The serum-alone treatment, on the other hand, may be given by anyone without danger of causing hog cholera. If the serum is good the farmer may give it to his hogs without fear, provided it is administered in the proper way. While it would no doubt be best to have even the serum alone always administered by a skilled agent, farmers may obtain good results if proper care is used. The following advice regarding the use of serum is offered for farmers who can not obtain the services of a skilled agent:

Use of Reliable Serum Important.

All serum can not be depended upon and farmers are cautioned against putting implicit confidence in a serum merely because it is labeled "Anti-Hog-Cholera." The serum must be prepared right in order to protect hogs. Farmers should use every effort to get a good reliable serum from the state college or from a reliable dealer.

Anti-hog-cholera serum is most effective when used as a preventive. It will also cure a large number of hogs in the early stages of the disease. It is of much less value, however, for hogs that are visibly sick. The farmer should make careful preparations before beginning the inoculation. Hogs that are sick should be separated from the well and marked so as to distinguish them. The pen or inclosure where the injections are made should be clean and free from dust.

How to Administer Serum.

The serum is administered by injecting it deep under the skin with a hypodermic syringe. Before beginning the injection of a herd, care must be taken to see that the syringes and needles are not only absolutely clean but that they have been previously boiled in water for 10 or 15 minutes. The purpose of the boiling is to kill the germs that may be on the instruments. Therefore, both needle and syringe should be kept clean and not allowed to become soiled during use, as by being laid on a dirty plank, dropped on the ground, or touched with dirty hands. It is a good idea to spread a clean towel on the plank or table where the work is being done. Before using, the serum should be poured into some receptacle with a cover (as a jelly glass with a tin top), both the receptacle and cover having been sterilized by boiling in water before use. The glass should be allowed to cool before the serum is poured into it, and should be always covered except when serum is being taken from it.

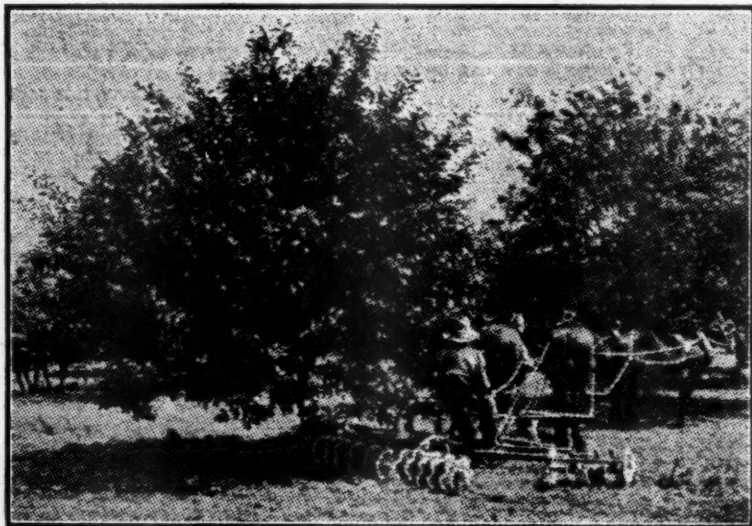
The serum is injected directly into the tissues on the inner side of the thigh, or, better, into the loose tissues between the foreleg and the body. The needle is inserted into the skin perpendicularly to a depth of from one-half to one inch, depending upon the size of the hog. Before the injection is made the skin of the hog over the point selected for injection should be thoroughly cleansed by washing with soap and water, and the surface then scrubbed with some re-

liable disinfectant, such as compound solution of cresol (U. S. P.) This disinfectant can be procured at drug stores, and should be diluted before use by adding one part of it to 30 parts of soft water.

Care as to the Dose.

Care should be used in estimating the weight of hogs, because the amount of serum required depends upon the size of the hog injected. The usual dose is commonly given on the package in which the serum comes. Be careful not to underestimate. Overestimate rather than underestimate, and thereby be sure of giving an ample dose of serum. After the injections are made, the hogs should be turned into a clean yard, free from mudholes and excessive dust. The hogs should be kept in this inclosure for several days at least after the injection, to enable the puncture wounds to heal thoroughly. They should be given soft, easily digested food.

Every farmer should keep an accurate record of the injections he makes, so that he will know what success has attended the treatment. He should



CLOSE TO NATURE.

make a record of the number of hogs that died from hog cholera before treatment, the number sick and the number apparently well at the time of treatment, and he should later keep a record of the number of sick and well ones that died following treatment. Keeping these records may enable him to determine whether or not the serum he used was good, and it may also show whether or not the work was properly done. If any hogs develop abscesses at the point of injection, a note should be made of the fact, keeping account of the number. Abscesses indicate that the serum was not right or that the work was not properly done.

Sanitary Principles Must Be Observed.

The proverb that "An ounce of prevention is worth a pound of cure" is especially applicable to hog cholera, and co-operation among farmers in combating the disease is very important. When hog cholera breaks out on a farm the farmers in the neighborhood should join in a strong effort to confine the disease to the one farm where it already exists, by instituting a strict quarantine, and also, when possible, by the administration of the protective serum to the droves on adjoining farms. It is a mistake to neglect timely sanitary precautions and to rely wholly on the use of serum. The serum is useful not so much for curing hogs sick with the disease as for preventing other hogs from taking it.

Every farmer should make absolutely certain that no dirt or implement is brought from an infected hog lot into another hog lot. Hog cholera can be carried in dirt on shoes, on wagon wheels, or on the feet of dogs. It has been proved that a pen of hogs infected with hog cholera can be kept within 10 feet of a well herd without communicating the disease, provided no dirt or implement or other object is moved from the former to the latter pen. If, however, the pen with the uninfected hogs should be cleaned with a hoe or shovel that has been used in the infected pen, the well herd would be almost certain to get the disease. Dogs, crows, and buzzards can trans-

port particles of flesh from dead hogs and thus carry the disease.

The following precautions are recommended for keeping the contagion from an uninfected drove:

(1) Do not locate hog lots near a public highway, a railroad, or a stream. The germ of hog cholera may be carried along any one of these avenues.

(2) Do not allow strangers or neighbors to enter your hog lots, and do not go into your neighbor's lots. If it is absolutely necessary to pass from one hog lot into another, first clean your shoes carefully and then wash them with a 3 per cent solution of the compound solution of cresol (U. S. P.)

(3) Do not put new stock, either hogs or cattle, in lots with a herd already on the farm. Newly purchased hogs should be put in separate inclosures well separated from the herd on the farm and kept under observation for three weeks, because practically all stock cars, unloading chutes, and pens are infected with hog cholera, and hogs shipped by rail are therefore apt to contract hog cholera. Freight cars

serum can be obtained, because it is far better to keep hog cholera out of the drove than to rely on the use of the serum after the disease has appeared.

Hog cholera, in the epidemic of 1913, caused an estimated loss for the year of about \$65,000,000. No other animal disease produces such a loss. It is estimated that in 1913 there were 197 hogs lost per 1,000 from cholera, and indications point to a further increase in this disease unless preventive measures are used. Such enormous losses of a valuable food animal is nothing short of a calamity.

To combat this there must be honest and earnest co-operation between all the interests involved, including the scientists and veterinarians, farmers, common carriers, and packing interests. State and Federal authorities must work in absolute harmony, and all concerned must endeavor to suppress personal opinions on relatively unimportant matters and aid in the adoption of uniform methods throughout the entire country.

The control and final eradication of hog cholera will depend largely on the education of farmers to the importance of observing sanitary principles.

CENTRAL CALIFORNIA.

A tract of 2,700 acres at Modesto is being subdivided.

The new cannery for Reedley is now assured for this season's work.

The state viticultural commission held a meeting at Fresno the last of April.

Extensive improvement is being made in the cannery at Selma, Fresno county.

Dinuba, Tulare county, is having a visitation of cutworms and army worms.

There are 2,500 acres of olive groves in the district about Lindsay, Tulare county.

A large attendance was given to the citrus growers' meeting at Porterville last week.

Tulare county is discussing reorganization of the citrus chamber of commerce.

San Joaquin county is thoroughly earnest in its endeavor to secure a farm adviser.

A large body of rich citrus lands of Tulare county has been purchased and will be subdivided.

Fresno irrigators are taking preliminary steps for the formation of a big conservation district.

A Tulare county vinyardist has found that he can drown immense numbers of cutworms by flooding the land.

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Mitchell, 4-cylinder, 5-passenger	350
Studebaker, 4-cylinder, 5-passenger	350
Mitchell, 4-cylinder, 5-passenger	350
Overland, 4-cylinder, 5-passenger	350
Moore, 4-cylinder, 5-passenger	350
Everitt, 4-cylinder, 5-passenger	350
Mitchell, 4-cylinder, 5-passenger	350
Carter Oak, 4-cylinder, 5-passenger	350
Mitchell, 4-cylinder, 5-passenger	350
Mitchell, 4-cylinder, 5-passenger	350
Everitt, 4-cylinder, 5-passenger	350
Mitchell, 4-cylinder, 5-passenger	350
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Horticulture

MONTEREY PINE MAKES A HIT IN NEW ZEALAND.

Foresters in the United States are much surprised by the statement in the January issue of the Journal of Agriculture of New Zealand, just received in this country, that Monterey pine "is by far the most valuable and profitable timber tree that can be planted" in New Zealand.

This pine grows naturally in a few very restricted areas in Southern California, principally in the neighborhood of Monterey Bay, with one or two isolated areas to the south and on Santa Catalina Island. While foresters have known that its growth is comparatively rapid, the tree has been regarded as practically valueless for timber, though it has been planted to serve as a windbreak for orange groves.

The reports of its behavior in New Zealand, however, seem to make a further investigation of its value in this country well worth while. In view of the extraordinarily rapid growth which the tree has made in their country, New Zealanders have given it the common name of "remarkable pine," and from the figures reported by the New Zealand department of agriculture, industry, and commerce, this name seems to be well merited. The claims for Monterey pine are based on the phenomenal growth which it has made in plantations and the many uses to which the wood seems adapted.

In one plantation, for example, in which the trees varied from 26 to 29 years old, one tree gave a yield of 1,400 board feet of saw timber and the average yield of the plantation was approximately 100,000 board feet for each acre. White pine, the tree best adapted to forest management in the Northwestern United States, will scarcely yield more than 20,000 board feet per acre at this age. Loblolly pine, the most rapid-growing pine of the Southeast, makes not more than 16,000 board feet per acre in equal length of time. Another 27-year-old plantation of Monterey pine in New Zealand yielded 75,000 board feet of saw timber and 60 cords of fire wood per acre, yet both of these plantations were on pure sand not suitable for farming purposes.

One Tree's Growth.

An individual tree, only 46 years old, was estimated to contain more than 6,000 board feet. Average white pine trees of the same age in this country, when grown in the forest, seldom contain much more than 125 board feet, so that the figures given in the New Zealand report seem almost incredible. It is known, however, that certain trees, outside of their native habitat, make remarkable growth, particularly in their earlier years, as has been strikingly shown in some of the Australian eucalypts in California and in Brazil.

On the basis of the tremendous yields of Monterey pine reported for New Zealand, the author of the article in the Journal of Agriculture believes that Monterey pine can be grown profitably in that country on land worth upwards of \$50 an acre, even when there is a comparatively high cost of planting.

Uses of the Wood.

In New Zealand the wood is said to be used for practically all building purposes except flooring. It makes excellent lumber for boxes, fruit packing cases, and for other similar purposes. It is not durable in contact with the ground or when exposed to the weather unpainted.

The behavior of this pine in New Zealand has been so remarkable that the forest service considers that a further investigation of its value in this country would be well worth while.

VEGETABLES FROM THE GARDEN.

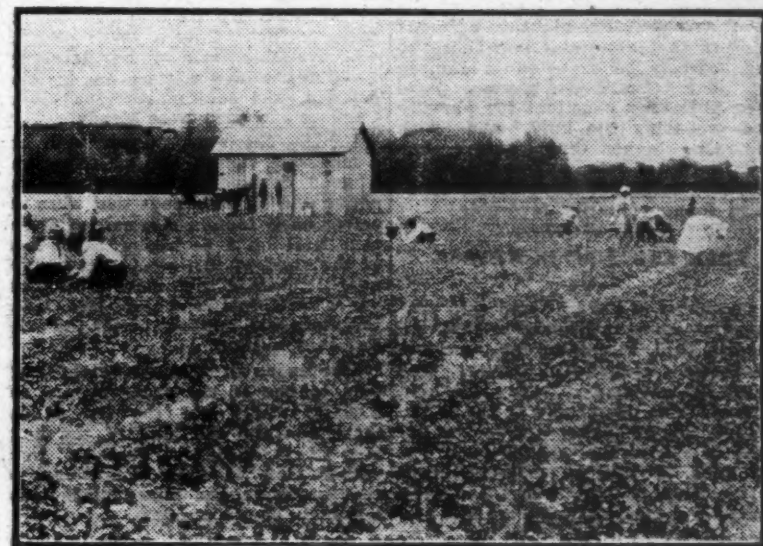
For the profitable production of garden crops you must have a well-drained soil, light, deep and rich, for you can not grow good vegetables on poor land. A sandy soil underlaid by a good clay subsoil is usually well suited to truck crops. Humus or decayed vegetable matter is even of greater importance to the gardener

than to the farmer, for it makes the soil warmer, more mellow and more capable of retaining moisture. My garden soil is not very well suited for gardening. However, to begin with we gave it a lavish application of decayed vegetable matter, together with an abundance of stable manure.

In the spring, as soon as ground can be worked I plant English peas in rows 18 inches apart, also an early snap bean. As soon as the ground is warm enough I sow beets, lettuce, radishes, lima beans and all the other vegetables in line. I try to plant so as to have something growing all the time, says Farm and Ranch.

A great many people plant their gardens as they do the farm crops; they plant all at once and have an abundance for a short time and then have nothing the rest of the year.

I plant the Kentucky Wonder to continue the snap bean season as long as possible. They are wonderfully productive and bear well until frost if well cultivated and free of weeds. The yellow potato onion planted in September can be used as a green onion by pulling off the offsets and leaving the large ones to ripen. These are not good keepers, and if you want good onions to keep well, you must grow



EVERYBODY BUSY.

them from seed in the spring, by sowing very early for the fall-planted sets.

I fertilize the whole soil, broadcast heavily and plant in rows about 15 inches apart. The larger sets I place by hand in the rows three inches apart. Plant parsnips, salsify and carrots the first of July and you will have nice, tender roots, while if sown early, as is done in the North, they will be overgrown and woody.

Let us all try to have better gardens in the future than we have in the past. I love to garden and it is so nice to have vegetables right at hand. One can can so many nice things for winter and know they are pure and fresh.

STRAWBERRY CULTURE.

Editor Rural World:—The article on "Strawberry Culture" some weeks ago by Jacob Faith reminds me that I want to say a few words on that subject.

My father also was a pioneer strawberry grower, beginning 39 years ago in Southeast Missouri and later growing them near Springfield, Missouri. He says last year was such a poor strawberry year, while here in Polk county it was a good year until the drouth began, but this year we can not have many berries as the drouth killed three-fourths of the vines.

I have set strawberry plants every year for 39 years and we formerly made a little mound and spread roots out all over it, which was a most slow process of setting plants. Now the fruit instructors tell us to make an opening with dibble or spade and poke the roots down in it, which is a fast way and plants grow just as well as the old way. I never heard before of any one shortening the roots, nor did I ever hear of setting plants much deeper than they formerly grew, for if the crown or top bud gets covered the plant will die.

In setting out an acre this spring we have had to use some old plants with black roots, as the drouth prevented many new roots forming. However they will grow if rains are plentiful. We planted early peas and onions between each strawberry plant and they are all doing fine. The vegetables will soon be harvested and out of the way. Our customers object to the Excelsior as they are too sour, but we like the Michel's early best and we like the Senator Dunlap best of all. This is May 4th and the earliest berries will soon begin ripening here. Rev. Teters and son, proprietors of the Golden Nursery here, have sold a great many strawberry plants this spring. Polk county is greatly blessed by having this nursery with honest men.

Some of you may profit by our experience. We fastened our hog lot wire to six large apple trees and last winter they gnawed the bark and killed every one of the trees.

We have just had a good rain and all vegetation is thriving. Crops are good. Peaches and plums were most all killed by the frost while they were in bloom. The peas we planted in the middle of the winter now have young pea pods on them, they should always

the early figures last season being chiefly guess work and 50 per cent higher than the actual crop.

Every grower in the branches affiliated with subcentrals of the distributors will make a detailed estimate on his crop, tree by tree, and variety by variety. The estimate of the growers will not be taken as final, but inspectors will visit every district and work on the basis of acreage and average in former years, and actual conditions on stated areas. These men will be experts and by a double system of estimating fairly approximate figures can be secured. Using this system the Yakima Valley Fruit Growers' Association one season estimated within two carloads of its entire tonnage and in another season within 20 carloads.

This year's apple crop is expected to be a full normal yield, according to General Manager J. H. Robbins of the North Pacific Fruit Distributors, who adds that weather conditions have been ideal for an excellent quality of fruit.

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NORTHEAST MISSOURI SKETCHES.

Editor Rural World: A large area of vacant lands and acres of land along our common roadways are now producing melilotus alba or sweet clover in great profusion. The seed of last year's growth came up in late March and April, and truly the land is well decorated with a dense population of little alba plants. I am not positive as to whether this new growth of clover will attain size for blooming this summer, but am inclined to favor the view that the earliest clover will develop flowers this year. We keepers of bees are solicitous on this subject, as we are advocates of melilotus, knowing that it is famous as a producer of sweet fluids for the bees and honey making.

Indications are for a large harvest of peaches all over Northeast Missouri, and other varieties of fruit promise fair yields. Wheat, oats, grass crops and other products seem prosperous.

There is great interest in this and adjoining counties in the draining of valley lands by a system of canals extending along the rivers through several counties, seeking the Mississippi as a final outlet for the flood waters. Canals are being established along the North Fabius, Wyaconda and other streams, and thousands of acres of the most valuable lands in these counties will thereby be brought into a condition for the growing of corn, wheat and other crops.

The observer notices that the rainfall of the first four months of the year, is mild in showers and of a reduced amount when compared with averages. Yet the earth is in prime condition for planting and cultivation. Very little interest is shown among our people in the sensational newspaper talk of war with Mexico. The Spanish-American war of 1898 caused greater attention, and even the British South African war aroused public sentiment. Well, peace is a very dear and blessed enjoyment, yet Thomas Jefferson said that storms and even wars may prove beneficial to a land and a people, and good Abraham Lincoln, in his peace loving spirit, was compelled to guide a great civil strife, in order that this "nation might live." Most of us have a daily conflict with labor, and have to keep well out on the firing line in the combat with the grim and vital wolf. In the meantime the republic never retreats, and the world of people is growing a few degrees better, morally and otherwise. JASPER BLINES.

Alexandria, Mo.

KANSAS WHEAT AND CORN CROP REPORT.

The Kansas Board of Agriculture today issued a report on the state's winter wheat and corn, as follows:

Winter Wheat—The conditions and outlook for the growing winter wheat are very flattering, considering the state as a whole. On the total 8,333,000 acres the condition averages 96.5, the highest for April reported since 1903, and this too on a record-breaking acreage. Growers estimated last fall that the total area sown would amount to about 8,580,000 acres. Thus it is seen that the loss up to this time amounts to less than three per cent.

The wheat generally came through the winter with less injury than for years before, and in most localities afforded valuable pasturage, some farmers reporting that the worth of this was greater than the cost of plowing, seed and seeding. This spring, however, more or less damage was done by dry weather and high winds in some of the western counties; for instance, in Logan, the chief sufferer, where, according to reports, 60 per cent may be abandoned. A half dozen counties or so neighboring Logan lost more or less from the same causes, as did several of the southwestern counties, but in the latter the acreage is limited and of small importance, taken in connection with the whole. In the eastern three-fifths of the state the wheat generally looks so well it is believed that practically none will be plowed up, although overpasturing has reduced prospects in a few fields, while some reporters exhibit concern over stands they believe too thick and growth that is too rank. Hessian flies are noted now and then by correspondents in less

than a dozen counties, all but three being in the northern two-thirds of the eastern third of the state. Taking into account the total acreage the infestation of the pests reported is so inconsequential as to scarcely justify mention. Correspondents make no reports whatever of the presence of chinch bugs or "green bugs."

This report is based on the situation existing Saturday, April 25. At that time conditions in practically the whole of the eastern half of the state were excellent, while in the majority of the counties in the west moisture was needed for continuance of vigorous growth.

Corn—It is too early for figures of any considerable importance on corn, but in answer to the question, "Will an unusually large area be planted?" correspondents in 70 counties say "No," and reporters in the other 35 counties say that as much as or more than usual will be planted. These counties are about equally in the eastern and western thirds of the state. In the central third, the so-called "wheat belt," and in scattering counties elsewhere, so much land was devoted to wheat that there seems small probability of average corn plantings. Lack of home-grown seed of good quality will apparently have some effect in lessening the usual acreage. Pre-planting opinions indicate that a normal corn acreage can scarcely be expected in Kansas this year. Conditions, however, have been uniformly excellent for plowing and preparing the land, and with somewhat higher temperatures following recent rains planting will be pushed rapidly under circumstances more than ordinarily favorable.

LEAD AND ZINC IN KANSAS.

The value of the lead and zinc produced at mines in Kansas in 1913, according to J. P. Dunlop, of the United States Geological Survey, was \$1,343,432, compared with \$1,680,744 in 1912. The decrease was due to the lower price of spelter and to the decline in recoverable spelter from 10,633 tons in 1912 to 10,088 tons in 1913. Most of the mines in the Badger-Peacock district were idle and the district produced little ore. The Lawton district was very active, several new concentrating plants were erected, and the mine output was double that of 1913. The output will probably be still greater in 1914, as several new plants will be in operation. The yield of lead concentrates in the Galena district increased 173 tons, but the sales of zinc concentrates (all except 198 tons of which was sphalerite) decreased over 2,600 tons. Mining developments compared favorably with those of other years in spite of lower prices paid for zinc concentrates, and the production exceeded the sales, so that the decline in production was not nearly as large as the figures indicate. The percentage of concentrates recovered to crude ore mined increased appreciably, indicating a lower proportion of ore from the "sheet ground."

Weekly Market Report

Cattle Off; Hogs Firm; All Grades of Cattle Slow and 10c Lower. Hogs in Fair Demand.

CATTLE—Supply of beef steers was moderate and the quality mainly medium. There was a good demand for desirable grades of steers, and prices in most cases looked steady. However, market was on a slow basis, and buyers operated sluggishly. They were disinterested in medium grades, unless sellers would concede discounts. On the bulk of the medium grades it was a 10c lower deal, and market was rather slow at the decline. Aside from a small bunch of yearlings that made \$9, there were few loads that bettered the \$8.50 mark. Clearance was fairly seasonable.

Supply for the butcher division was also moderate, and with a few exceptions, included a very few choice grades of heifers. Demand was hardly as good as it was last week, but still it was of ample volume to absorb the small offering. Market was

inclined somewhat to slowness, and while sellers complained in places on medium-grade heifers, yet it was a steady trade on the bulk. A load of yearling steers and heifers topped the market at \$9, but there were few straight loads that went above \$8.50 mark. While the supply of cows was moderate, market was slow and buyers bearish. The demand from outsiders was not as good as it was last week, and this lack of support was plainly felt. Most of the cows were on a 10c lower basis, and were rather slow at the decline. Bulls were slow.

Feeder and stocker market was slow and prices mostly 10@15c lower. The inquiry was about evenly divided between stockers and feeders, and there were but few loads of either offered. Sellers claimed it was impossible to place their holdings at anything like steady prices, and all transactions were effected at the decline.

There was a good demand for the moderate supply of Texas steers, and they had changed hands soon after the market opened. Order buyers took slightly more interest in the trade than they did last week, and with a good demand from packers, sellers had no trouble placing their steers at fully steady prices. Most of the steers sold at \$7.50@7.65, latter price being top for the day on the early market. Only a small offering was available from canner territory. Yearlings, however, were not in good demand, and sold mostly 10c lower. Canners and oxen were steady.

HOGS—The week opened with but a moderate supply, and, as there was a good demand, the market was active and all good hogs that were received early found ready sale at prices that were on a 5c higher basis than at the close of last week, but toward noon it seemed that most of the advance was lost and the late trade therefore was not any better than the Saturday market.

Two loads of medium-weight hogs sold to one of the order buyers for \$8.62½, which was the top of the market, while the bulk of the hogs sold at \$8.45@8.55. Packers were rather slow in their operations, so that the plain and mixed hogs found but little of the advance.

The top was the highest in the West, as the highest price in Chicago was \$8.60, and none of the up-river markets were able to get even that figure and the bulk was equally as high or higher than the bulk in Chicago. What hogs met with the approval of shippers and city butchers found sale at \$8.52½ and above, while the plain and mixed grades in general sold at \$8.25@8.50, and the larger proportion went to the packers.

Best grade of lights weighing under 165 pounds found sale at \$8.30@8.55, fair kinds brought \$7.90@8.25, good quality pigs went at \$7.90@8.10, fair to medium offerings sold at \$7.25@7.75 and the poor grades at \$6.50@7.15, and there were many of the latter kind on sale. Some of the poorer grades did not sell.

SHEEP—Although there was a liberal support of sheep and lambs, there was no material change to the trade. Here and there it was thought that sales were made on a weaker basis, but the trade in general was steady. Offerings included several loads of clipped western lambs, and there was also a good many spring lambs received from Tennessee.

One lot of choice springers from Tennessee sold at \$9.90, which was the top of the market, while quite a lot of good ones brought \$9.85, and some that were just fair went at \$7.40@7.75. A load of spring lambs from Missouri sold at \$8.40. The best clipped lambs were from the state of Nebraska and sold at \$8.20, while other clipped ones went at \$7.60@8.10. Buyers were ready traders for the good lambs, both clipped and spring.

Best fat sheep sold at \$5.75, the same as the latter part of last week, while the fair to medium ones sold at \$5.50, which is also the same as they were bringing toward the close of the week. Thin sheep were a little slow to move, as there was little demand for them. Good stockers and choppers went at \$4@4.35, fair grades \$3.50@3.85, while bucks sold at \$4.50@4.75, which is the same as all of last week.

HORSES—The eastern demand came largely for the good quality types of chunks and drafters and these with extra good quality sold high. General good quality kinds of work horses also met a right fair demand and these like other types found sales in a satisfactory range all the way through. There was a nice showing of southern purchasers and they were working on a good strong basis all day. The kinds that met with the most satisfactory sales were topky kinds of work animals suitable to the southern climate. These sold as well.

MULES—The best demand came for the good quality kinds of quality types of big mules and miners, but anything with the required quality sold fairly well. Common were neglected.

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The Pig Pen

HOGGING DOWN CROPS.

The Iowa station reports an experiment in "hogging down" corn for three years with 10 spring shotes to the acre, the shotes weighing about 75 pounds each.

Comparing the average cost of production per 100 pounds of grain with and without the various supplemental crops and feeds, the following results were obtained: Hogged down with soybeans \$2.73, with cowpeas \$2.87, rape and pumpkins \$1.86, Canadian field peas \$4.42, hairy vetch \$5.85, corn without supplement \$3.14, with meal \$2.43, and with rye pasture and meal \$2.69.

Replies received from a large number of farmers estimate the saving per bushel of corn by the hogging-down method at an average of 6.89 cents.

It is the general conclusion that spring-farrowed shotes, weighing 100 to 170 pounds are the most adaptable to hogging down conditions, although younger pigs and old sows may be so fed to advantage.

The farmers' reports indicated an average production of 12 pounds of pork per bushel of corn fed, when hogged down. Actual experiments gave the following results:

With standing corn without supplement, 7.76 pounds per bushel of corn, this is considered low and is accounted for by unfavorable conditions; corn and meal 15.73 pounds; corn, meal and green rye 18.37 pounds; corn and soybeans 13.05 pounds; dry-lot corn and meal 15.30 pounds; and dry-lot corn alone 9.20 pounds.

The average size of a field hogged down at one time was reported at 19 acres, carrying approximately 13 hogs per acre.

The carrying capacity of an acre of standing corn for a period of 30 days, with shotes weighing 125 to 150 pounds, is estimated at 14 to 15 head when corn is yielding 40 bushels per acre, and 21 to 22 head when corn is yielding 60 bushels.

The commonly accepted time to turn hogs into the field is when the corn is well denting.

POINTERS ON BREEDING.

There are three serious defects to avoid in selecting hogs for breeding, namely, weakness through the heart, weak or swayed back, and weak pasterns. These are faults which the big hog-growers of the west have learned from years of costly experience to avoid, and they have a right to know.

With these breeders no other good qualities will compensate for these defects. Here in New York state, in selecting breeding animals for meat production of either the Berkshires, Chester-Whites or Durocs, and these I consider the most profitable and popular hog with us, the chief characteristics should be broad, deep, thick-meated sides, heavy hams and shoulders, and thick meated neck and jowls, with deep and broad chest, ribs well sprung and the legs short and sturdy.

The animal should stand up well on its toes, small ears, fine in texture and fine hair show good breeding. Swine having coarse hair along the top of the neck and shoulders should be avoided. The sow may be longer bodied than the boar, and she should have at least 12 good teats.

Uniformity in type is essential for good profits in growing swine. No two breeds or types feed exactly alike, and where there is a mixture, there is a variation in finish and weight that is sure lessens the selling price.

I believe that all successful hog-growers will agree with me that, for the best results, both the boar and all the sows should be purebred, of one breed and of the same type. Mixing up the breeds in a haphazard way is sure to result disastrously to the one who makes hog-growing much of a business.—C., N. Y.

CANADIAN FATTENING.

At the Canadian experiment farm the fattening pigs are closed in their pens after they reach 50 to 60 pounds in weight. Previous to that time they

have free run for exercise. Breeding sows are kept outside and housed in small cheaply-constructed pens until about 10 days before they are due to farrow, when they are placed in the warm pens.

These sows while outside get second-cutting clover hay, fine-grass hay or alfalfa hay, raw mangels or cooked turnips, and at the start 1 to 1½ pounds of grain daily, the latter being increased to three to five pounds daily just before they are closed in to farrow, at which time they are fed on a laxative ration of shorts, bran, oil-cake meal and crushed oats, the latter being the best grain feed for a breeding sow. A few roots and a little skim milk are given.

NATION WIDE ATTEMPT TO CONTROL HOG CHOLERA.

A nation-wide campaign to control hog cholera is to be made in the very near future if the plans are carried out which were suggested at a recent meeting of the federal and state officials who have the work in charge.

Every year one hog out of every ten in this country succumbs to this disease. Only by the full and hearty co-operation of stockmen and farmers in carrying on a definite campaign of control can outbreaks of this disease be prevented says Dr. F. B. Hadley of the College of Agriculture of the University of Wisconsin.

While properly prepared serum is the only agent known which can be used to combat the disease, certain simple measures for preventing it

Pile loose dirt about the edges of the cover and seal it up. Do this late in the evening, and by morning there will be a good pit of charcoal. Crush six bushels of the charcoal, add eight pounds of salt, two quarts of air-slaked lime, and one bushel of wood ashes.

Mix thoroughly, then sprinkle over this 1½ gallons of water into which 1½ pounds of copperas have been dissolved. Stir the mixture while pouring on the water. Put the mixture in a hoglot in a self-feeder. It not only acts as a tonic, but is conducive to a maximum protein assimilation.—N. Y. Farmer.

AROUND THE HOG PEN.

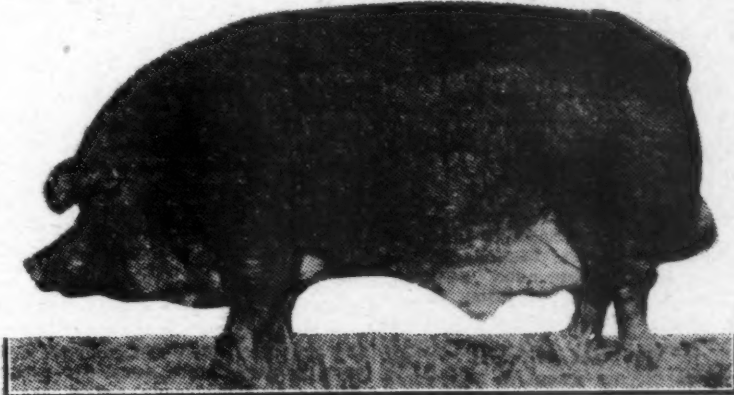
Keep the pens clean and dry to prevent disease among your hogs. Don't let drafts blow on the hogs—drafts are fatal to them, causing pneumonia, rheumatism and various other ailments.

If your hogs are sick or not doing well, find out what the trouble is. It will pay. A squealing hog is not profitable—a contented hog grunts. Don't keep them in too small a pen. Exercise is essential to health. Give small pigs plenty of exercise, it may prevent thumps.

Give the sow and pigs plenty of room on the sunny side of a building.

Colony houses for brood sows are more sanitary than a central house.

If your little pigs are troubled with scours change the diet of the sow. Do not feed dirty, spoiled or



A FINE SPECIMEN.

from infecting healthy herds can be successfully adopted.

Keeping the pens, yards and animals clean and free from all chances of infection, is the first step toward preventing an outbreak. Very often the disease is carried from one farm to another on the farmer's boots, or by animals and machinery that picks up bits of soil or dirt near the infected quarters.

All hogs coming into the herd should be quarantined for a period of three weeks before being allowed to mingle with the rest of the herd, and all stock cars used for shipping breeding hogs should be thoroughly disinfected before using in order to keep the infection from spreading to disease-free farms. In order to avoid severe losses, herds that are threatened with cholera, should be promptly treated with the serum.

To further assist this work, congress recently appropriated \$500,000 which will be used for field demonstrations and to place federal inspectors in those serum manufacturing plants doing an interstate business.

MAKING CORNCOB CHARCOAL.

Here is a plan by which some farmers are making corncob charcoal for the hogs. It is a good one and gives a plan by which the farmer can utilize the cobs for a good purpose. There is nothing else better than corncob charcoal as a conditioner for the swine. It is cheaper and better than many of the remedies that are extensively advertised throughout the country.

Dig a pit five feet deep, four feet in diameter at the top and one foot at the bottom. Start a fire of corncobs at the bottom of the pit, then add more corncobs until the flame is large and leaping to the top of the pit. Fill in with corn cobs at once and place a sheet iron cover over the top.

sour feed. Thoroughly cook all meat scraps.

If hard bony enlargements form on the hock joints of your small pigs, the chances are that they have rickets. Introduce some new blood into the herd and feed your pigs per each 100 pounds weight a mixture of calcium phosphate pulverized, nux vomica 2 ounces, artificial carlsbad salts 10 ounces.

For worms give 5 grains calomel and 10 grains santonin per each 100 pounds, followed in about six hours by a bran mash or give 10 grains santonin and 20 grains areca nut after a 24 hour fast.

Follow some of your hogs to the packing house and see them inspected. It will pay in case they are tubercular.

Use plenty of whitewash around the pens.

Isolate all sick hogs. Burn all dead ones. J. H. Coffman, Veterinarian in Hog Cholera Serum Production, Idaho Experiment Station.

During a recent outbreak of hog cholera in Allegheny county, Pennsylvania, 350 hogs were vaccinated with serum, the result being a largely decreased death rate.

The Shepherd

THE SPRING LAMBS.

My sheep are lambing now and I have but little time for anything but business. Work on the farm at any time is anything but a lazy man's job, but winter finds us with the most spare time and I like to have the lambs come early so I can give them full attention. The one time that we must look after sheep is in lambing. If the weather is cold they may chill to death; occasionally a mother will not own her lamb and in the case of

Out of stretchy Sows and 1000 B. Boars. It is your move. Buy them an I win. J. F. Vissler, Box 2, Alton, Ill.

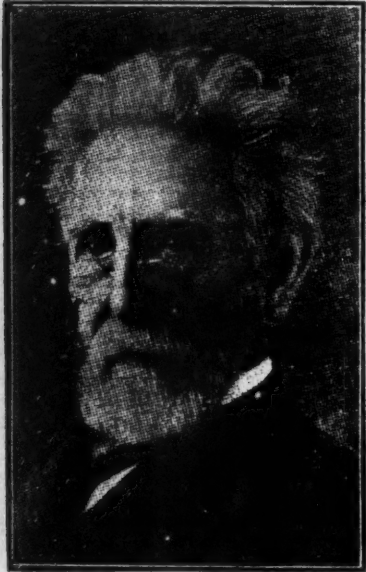
twins we must see that they keep together at first. We have little pens for the mothers which have twins and are inclined to leave them. However, they are generally the best of mothers and grieve over their dead lambs in a way to make one's heart ache. On the ranch there are none of the dreadful cries of the starving orphans that are heard on the range. My very first sheep was one of these orphans. I made one visit to the lambing ground and that was all I ever wanted. I can hear those cries yet and the time will come when such things will not be tolerated. There will be laws to cover this just as there is for the humane feeding and watering of stock in shipping. These orphan losses in a financial way are favorable to ranch sheep. We always have a few for some unavoidable reason, but we raise them on cow's milk like a calf. Rangemen tell me it is better to have lambs come later, so they will have grass to eat and that they will do better. I do not find it so. The lambs will begin to nibble at the alfalfa hay when three or four days old and will soon eat as well as their mothers. They are all started and care for themselves when the spring work is on and most farmers are worked to death. The rangemen forget that when they are lambing that is all they have to do, while a farmer has many other things to attend to. I find in nearly every way that sheep on the ranch and on the range are entirely different businesses. The rangeman, from a money point of view just lets his orphans die, loses stray sheep in the brush without bothering about them and the sick must get well themselves or die. But such methods on the ranch would be a disgrace. We will expect to keep a better grade, or even pure breeds, and so cannot afford such losses. Here is where I suffered. When I started in on sheep only one man that I knew was handling them on the ranch and I had no one from whom to ask advice when in trouble except a rangeman and all he knew was to let the bum sheep die. I could do that without any help, so I just had to blunder along, reading all I could find in papers on the subject and studying my own situation. I forgot to say how little I knew of stock or farm work except what I had read, until I came to the ranch 13 years ago. I scarcely knew a sheep when I saw one, so it is very evident that if I could make it pay at all that any farmer raised to the business ought to make a big thing out of it. Discussions on sheep in the papers have been a great help to me and I hope these lines on my mistakes may prevent some other farmer from going the same rough road. Let us consult together and profit by the mistakes of others. Before I give my figures I would like to say that my flock consists of the ordinary scrub, range sheep that I have picked up anywhere from one to a half dozen. They are all sizes and coarse and fine wool of all grades. The one trouble in getting started on the ranch is that rangemen do not want to sell a hundred or two, so we have to pick them up wherever we can. Mine are in no way a selected lot. This simply emphasizes what I have said about making any profit. Pure-bred sheep or good grades, like any other stock, will naturally pay better than scrubs and I can say right here that I do not intend to always have scrubs; but they proved both cheap and profitable and are especially good to practice on, for a beginner is bound to lose more or less and, in fact, any one in the stock business must expect some losses. One of the strongest points in sheep raising is that they are so little work or trouble most of the time. For about eight months they will run on pasture. You only have to keep a little water running and corral them at night. When evening comes mine are all in or close by, and all there is to do is to shut the gate and open it in the morning. Even this is not necessary if you have a coyote-tight fence, but we sleep better when they are corraled and most of them like to go into their house.—D. C. Mullen in Field and Farm.

Colman's Rural World

Founded by Norman J. Colman.
Published by
Colman's Rural World Publishing Co.
August Frank, President.

Western Representatives,
HOPKINS & SHAYNE,
910 Hartford Bldg., Chicago, Ill.

WILLIAM N. ELLIOTT, Editor.
C. D. LYON, Associate Editor.



Norman J. Colman,
First U. S. Secretary of Agriculture.

COLMAN'S RURAL WORLD was established in 1848 by Norman J. Colman, who later became the first United States Secretary of Agriculture. As a champion of advanced agriculture this journal has attracted nation-wide support, and is today held in highest regard by thousands of intelligent and discriminating readers.

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COLMAN'S RURAL WORLD is published every Thursday at 718 Lucas Avenue. Contributed articles on pertinent subjects are invited. Address all communications to COLMAN'S RURAL WORLD, 718 Lucas Ave. St. Louis, Mo.

Entered in the postoffice at St. Louis, Mo., as second-class matter.

The right of the state to regulate insurance rates was settled once for all by the supreme court upholding as constitutional the Kansas fire insurance law of 1909. Chief Justice White and Justices Vandevanter and Lamar dissented, holding insurance was a private contract with which the state had no right to interfere.

The national department of agriculture is trying to eliminate the danger to cattle from poisonous plants on national forest ranges. Of these plants, larkspur, loco-weed, death camas and water-hemlock are the most poisonous. Larkspur does the most harm, because it is so widely distributed and is particularly bad for cattle. Ordinarily, horses will not eat larkspur, and sheep can eat it without apparent injury.

Modern traffic is producing a curious effect on roads. Col. R. E. B. Crompton, British road engineer, reports that, instead of showing compression followed by true wear, careful measurements on a road gave the proof of the fact that some portions had been actually raised, and that the surface had been deformed in waves. It is explained that the action of wheels at the speeds now employed is no longer true rolling. It is more in the nature of rhythmic percussive action, the wheels striking the ground

at regular intervals, and this tends to change the flat surface into waves.

Tillage is an important factor in the control of soil moisture. The ideal condition of the soil for controlling moisture is to be porous enough so that moisture will pass into it readily, and fine enough so that it will hold a large percentage of moisture by capillarity and still have room between the soil particles for air. This is true of subsoil as well as of the surface soil.

According to an estimate by Sir John Murray, the total annual rainfall upon all the land of the globe amounts to 29,347.4 cubic miles, and of this quantity 6,524 cubic miles drain off through rivers to the sea. A cubic mile of river water weighs, approximately, 4,205,650,000 tons, and carries in solution, on the average, about 420,000 tons of foreign matter. In all, about 2,735,000,000 tons of solid substances are thus carried annually to the ocean.

Although ice cream may be considered a luxury eaten like candy and fruit largely for the pleasure of the taste, and nowhere considered a staple food article, unless it is in the hospitals that use it, the ice cream trade in the United States reaches the enormous total of 100,000,000 gallons annually not including that manufactured and consumed in the homes. This cream will retail at \$1.40 a gallon or the sum of \$140,000,000 yearly. Sold at wholesale it would bring 85 cents a gallon or \$85,000,000 a year if sold in lots, and the demand for it is constantly increasing. Here is an outlet for the dairy output of the farmer that pays a much greater profit than butter or cheese.

CONGRESS ADDS TO NATIONAL FOREST.

Nearly 17,000 acres have just been added by act of congress to the Caribou national forest, Idaho. This is one of the first of such additions through congressional action, and is the largest so far made by direct legislation.

Those who have followed the national forest movement in this country will recall that most of the forests have been created through presidential proclamation, which set aside, for timber growing or for water protection, certain areas of the public domain. In March, 1907, however, congress passed a law that no further additions should be made to the national forest areas in the states of Colorado, Idaho, Montana, Oregon, Washington and Wyoming, except through congressional action.

Since July, 1909, residents of the city of Montpelier, Idaho, have been petitioning to have this 17,000 acres added to the Caribou national forest, because the area includes the watershed of the stream which furnishes the city's water supply. Not being within a national forest, the tract was given over to unregulated grazing and other uses which resulted in stream pollution and became a serious menace to health. The citizens of Montpelier, at several times subsequent to their first efforts in 1909, renewed their petition; and the act just passed represents the successful outcome of their efforts.

FIRST FARMERS' CO-OPERATIVE LAUNDRY.

The first farmers' co-operative laundry in the United States is now in successful operation at Chatfield, Minn., where it is doing much to eliminate for the overworked farm woman the terrors of "blue Monday." Chatfield is only a small village and the laundry's patrons are almost entirely obtained from the open country around. Coarse clothing of all sorts, overalls, rugs, bed clothing, and fine fabrics as well are handled at a uniform price of 5 cents a pound for washing and ironing. An extra charge is made for such articles as need to be ironed by hand. The laundry is managed in connection with a co-operative creamery, paying to the creamery a reasonable rental for the use of a part of its building. Modern machinery was installed at the beginning and an experienced laundry-

man engaged as superintendent. For the first year of operation, which has just closed, the receipts were \$5,403, 70 per cent of which was paid out for wages. Patrons received a dividend of 10 per cent and stockholders 6 per cent additional. The success of the innovation will, it is said, prove most encouraging to rural workers everywhere.

WHAT TO DO WHEN CLOVER FAILS.

In an article on "Legumes for the Corn-Belt Live Stock Farmer," Professor Handschin of the University of Illinois says among other things:

"So far, the soy bean seems to be the most valuable substitute when clover fails, although it has the disadvantage of adding another cultivated crop to the corn area which is already large on most corn belt farms. However, where the field is especially free from weeds, the beans may be drilled in and raised without cultivation. At least this seems to be giving satisfactory results at several experiment stations and also in the hands of a number of practical farmers.

"The yields of soy beans seem to compare favorably with other legumes ranging from 1½ to 3 tons of hay, and from 15 to 20 bushels of seed. The hay is proving a very satisfactory roughage for cattle. They eat it readily and seem to thrive upon it as well as on good clover hay. The bean, while so far not extensively tried with cattle, has not proved entirely satisfactory as a means of replacing cotton seed meal, oil meal, and other protein concentrates. More experimental work along this line will no doubt give us more exact information as to just how far the bean can be used in cattle feeding. In the feeding of swine, soy bean meal has proved quite satisfactory as a protein concentrate, being able to replace all ordinary protein feeds except tankage meat meal, and the most expensive very concentrated protein feeds.

"The bean is also at present a profitable crop to raise for seed, as the demand usually greatly exceeds the supply of good seed, and until the crop is much more generally grown, there should be a ready outlet for all good seed at satisfactory prices.

"Considering all of these facts, it would seem best for the live stock farmer in the corn belt to make a conservative but persistent effort to grow alfalfa successfully, and supplement this by the growing of red clover as one of the crops in the regular rotation, which can be replaced by soy beans when it fails."

CROSS-EYES.

One of the most conspicuous and annoying conditions that may occur in the eyes of a young child is squint, or what is commonly known as "cross-eyes." It occurs chiefly between the ages of 2 and 6 and comes on gradually at first, showing some slight turning inward in one eye, at times, until finally something occurs to precipitate a definite attack and the eye turns in to a greater or less degree and remains so. Frequently a convulsion or an attack of coughing, especially during whooping-cough or some like irritation to the general nervous system, bring on the attack, and is considered by the child's mother to be the cause. This is incorrect. When the eye is turned it will not look directly at the object at which the other eye is looking, and doubling of the vision is the result. This "doubled vision" is very annoying, as any one may judge for himself by slightly pressing one eye out of position with the fingers. In order to escape this annoyance the child unconsciously stops using the eye that is turned in, and this, in time, leads to changes in the nerve tissues which makes the child's sight defective in that eye. Formerly many physicians advised parents to wait until the child grew older before having anything done to the eye, feeling that an operation was the only thing to relieve the condition, or that the child might "outgrow it." This, in the light of our present knowledge, is bad advice. By the time the child gets to be 8 or 10 years old the sight in the eye is defective from dis-

use, and cannot be restored, and this failure of vision has usually occurred even though the eye has straightened itself spontaneously. It is very important, therefore, not to allow the child to stop using the squinting or turning eye. It is not always necessary to operate. Usually glasses have to be worn to stop the strain, and there are other forms of treatment which are many times effective. If these means fail and the eye continues to turn, an operation may have to be done to keep the eye straight and to save the sight in that eye. But not more than half, perhaps even less, will require operation. Fortunately treatment is much more judiciously given and often is more successful now than it used to be, and the present generation of children will probably not show so frequently the defects caused by neglected "cross-eyes."

DAMAGE BY TRESPASSING ANIMALS.

Farmers in old English days, writes John H. Ingham in the April Case and Comment, *The Lawyer's Magazine*, had to fence in their animals and keep them from trespassing on the inclosed or uninclosed lands of others. While this rule applies well to a populous and highly cultivated country, it is not so reasonable in a newly settled community, where the landowner should be allowed to let his animals run at large and be rightfully subjected to whatever losses to his land or stock are caused by his own failure to fence against the animals of his neighbors. The common-law rule is in force in many of the states; in others it has been changed by fencing statutes; in others still it has been declared never to have been in force. Where the owner is driving his animals along a public highway, the common-law rule does not apply in full force and he is not liable for their wandering into unfenced land, if he does all he can to remove them. Otherwise, where the animals are merely straying along a highway, an English case that gave rise to a great deal of discussion held that where an ox, driven through a street, entered the open door of a shop and damaged goods, the owner of the animal was not liable, no negligence on the part of his servants being shown.

ORGANISM IN CONDENSED MILK.

It may come as a distinct surprise to many persons to learn that the process of manufacturing condensed milk has not yet passed the crude stage. Certain general rules of technical procedure and manufacturing operations are followed as closely as the experience of factory superintendents or others in charge of the plants will permit; but the art of preparing a uniform product can scarcely be said as yet to rest on anything like a scientific basis. Regarding one feature of condensed milk, namely, its bacteriology, almost nothing was known until quite recently.

Natural milk is such a favorable medium for the development of bacteria that it must be thoroughly sterilized if it is to be preserved as such for any length of time. Accordingly, it is said that the more liquid brands of preserved milk, which are found on the market in small numbers, are bacteriologically sterile. Condensed milk, on the other hand, represents a product that is concentrated to a quarter or more of its original volume, with an addition of sugar. Such a viscous, saccharine medium is relatively unfavorable to bacterial growth and will therefore keep for a long time even though not free from living organism. Not only is it unnecessary from a commercial point of view to sterilize it, but the exposure to temperatures requisite for effective destruction of bacteria tends to deteriorate the condensed product in other ways. It becomes brownish and solid. Milk is usually condensed by evaporation under diminished pressure at a temperature considerably below the boiling-point of water.

A British investigator at St. Bartholomew's Hospital in London, who has lately conducted an extensive examination of the fluid or semisolid products ordinarily termed "condensed milk," corroborates the experience of his predecessors in stating that he has

never found milk of this type sterile. It is only fair to state that these milks are not as a rule sold as sterile any more than is market-milk even of the certified grade. The lack of sterility is no reason for condemning them; they must be judged by the harmfulness of their bacterial contents.

Condensed milk may contain the types of bacteria commonly found in fresh milk. Inasmuch as these organisms can multiply in tins of condensed milk, the actual number present will depend largely on the age of the sample.

The proper attitude for the hygienist to take in the face of the facts may fairly be debated. Dr. Andrews, the London investigator referred to, reasonably argues that as every one who takes fresh milk consumes in bulk the same bacteria found in small quantities in condensed milks without suffering any ill effect, these may be regarded as comparatively unobjectionable. But condensed milks find abundant use among large numbers of the poorer classes in persons most susceptible to harmful consequences. Even granting the blameless nature of the original milk, can we view without concern the circumstances which convert the tin of condensed product into an almost pure culture of dangerous germs? Is condensed milk, numbering more than a quarter of a million germs per cubic centimeter, a wholesome and desirable food for an adult, much less for an infant? Whatever the answer to this may be, it seems likely that efficient pasteurization before the condensing process would prevent the presence of such organisms in the final product. Fortunately, says the Journal of the American Medical Association, they are absent from the majority of condensed milks, or present in only small numbers.

ITEMS.

C. D. Lyon.

In 1913, one of the driest years on record, Levi had a field of 12 acres to plant in corn. His usual acreage is 20 acres, and as he was only going to plant about half that much, he concluded to give the land extra preparation. It was plowed at the same time the neighbors plowed, but he spent a week on the field, disking and harrowing before planting. He doubted the yield of any other man near him.

Jake is a tenant farmer, and a good one too; but his landlord is a town man and don't know much. Last fall the landlord had Jake to sow rye in early October on 10 acres that had been in tobacco, with a view of breaking for corn this spring. I told Jake that unless the rye was turned under before it jointed, it would make trouble for him, but the town man insisted on letting it get big. He broke the land April 28—May 2, when the rye was three feet high and says it was the hardest job of plowing he ever saw. Yesterday he was over to use the phone in calling the veterinary to treat a bad shoulder on a horse, said bad shoulder being due to the hard plowing. It is safe to say that he won't allow any one to get him into such a scrape again.

The only time I ever made a horse's shoulder sore at farm work was breaking two acres of rye that was almost in head. The day was not very hot and the horses walked up well although the ground was very hard, and at night when I took the collars off old Dock had an awfully swollen shoulder. Fortunately we had an extra horse, but the experience taught me that whenever I moved rye to turn under to get it done before the plants began to joint. Rye takes up moisture very fast when it is coming into head, and the ground gets hard quick.

Writing of rye; last spring I had several acres of clover that had considerable volunteer rye in it. This rye-clover was made into hay about middle June, and I think that it makes about as good hay as I ever fed, although always excepted. The clover was a mix of alsike and medium red, a good stand with about one-fourth the bulk of rye, and it cured up bright and clean as timothy, our horses eating it up clean and keeping up as well under heavy spring work as on any hay we ever fed.

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POSITIVELY such a good telescope was never offered in such a liberal manner before. These telescopes are made by one of the largest manufacturers of Europe; measure closed, 12 inches, and open over 3½ feet in five sections. They are brass bound, brass safety cap on each end to exclude dust, etc., with powerful lenses, scientifically ground and adjusted. Guaranteed by the maker. Everyone living in the country should have one of these instruments. Objects miles away are brought to view with astonishing clearness.

Used as a microscope it is found of infinite value in discovering microbes and germs in plants, and seeds, etc.

Heretofore telescopes of this size with solar eyepiece and multi-focal lenses, have sold for \$8 to \$10, or even more. We do not claim our telescope is as nice and expensive in every particular of construction as a \$10 telescope should be; that would be unreasonable; but it is a positive wonder for the price. Each telescope is provided with 2 interchangeable objective lenses—one for ordinary range and hazy atmosphere, the other for extra long range in clear atmosphere, increasing the power and utility of Telescope about 50 per cent.

Can Count Cattle Nearly 20 Miles Away.

F. S. Patton, Kansas, says: "Can count cattle nearly 20 miles away. Can see large ranch 17 miles east, and can tell colors and count windows in the house."

Saw an Eclipse of Sun.

L. S. Henry, The Saxon, New York, writes: "Your Solar eyepiece is a great thing, I witnessed the eclipse at the Austrian Tyrol when the sun was almost 80 per cent concealed."

Could See Sun Spots.

Rutland, Vt., Feb. 16, 1910.—Telescope arrived O. K. I have seen the spots on the sun for the first time in my life.—Dan C. Safford.

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THE CALL FROM GALILEE.

The rose of Sharon blooms for me
Sweet as for Him of Galilee;
The cedars of Lebanon and Tyre,
Bathed in the golden sunset fire,
In oriental splendor shine
Like virgin charms at Vesta's shrine.

Dark cedars with bowed and spread-
ing top,
Could'st thou o'er shadow the very
spot
Where died the Man of Sorrow and
Mystery;
Thy shadows resting there could I
but see,
And let their shadows o'er me fall
I would say 'tis finished—I hear the
call.

The call to love, to cheer, to give;
The call to do, to die, to live;
The call to protect and defend
My mother, wife and womankind
From all the wiles and arts of men
Who'd send them down
Sin's broad and wayward line.

The call to expose the fraud and
knave;
The call to cheer the galley slave;
The call to brother every man,
Of every race and every clan;
The call to resist evil, not to sup-
press;
The call to succor my neighbor's dis-
tress.

The call I hear, it is plain to me,
There is no place I long to see
Like the bleak and barren plains of
Galilee.
Their silence would ten times louder
speak
Than trumpets from the mountain
peak
Of Him who rose to heights of virtue
divine
That none fail to worship at His
shrine.

If not divine Thou art divinity,
And man's soul mate and affinity;
And had Thy Sermon on the Mount
Been preached as often as the bloody
fount,
Perverse man ages ago have heard
the call,
And thus redeemed his accursed fall.
St. Louis. ALBERT E. VASSAR.

FREEZING SPOILS FOOD.

The nutritive value of food is greatly reduced by freezing. This holds true not only of fruit and vegetables, but of corn fodder and ensilage, though the loss is less in the case of corn that is cut at once for ensilage than in that which is shocked for dry feed.

FOR COOKING IN SPRING.

In spring, it is hard to prepare meals that will be relished by persons who come to the table with a meager appetite. The following recipes, suggested by Miss Jennie Cox of the domestic science department of the Kansas State Agricultural College, cover a wide range, and if followed will make the members of the household happy when mealtime comes:

Spinach a la Creme—1 can spinach, 1 cup cream, 6 tablespoons butter, 4 tablespoons flour. Cook the butter and the flour together until they are smooth. Add boiled, chopped spinach, and cook the mixture for five minutes, with constant stirring. Add cream, salt and pepper to taste. Cook this mixture three minutes and serve it on toast.

Leg of Lamb, Stuffed—Cut off the leg at the joint corresponding to the knee. Loosen the flesh around this joint with the fingers and the back of a small knife. Push the meat away from the bone at least as far as the next joint. Reverse the leg and push the meat from the hip bone, and so on until the meat is all detached from the bone. Then remove the bone. Fill the opening with bread stuffing, highly seasoned. Sew the meat into a compact shape and roast it about an hour and three quarters.

Cauliflower With Nuts—1 cauliflower, ½ cup chopped nut meats. Separate the blossoms and cook them in

salt water until they are tender. Drain the cauliflower and serve it with drawn butter sauce. Spread the nuts over the surface.

Rhubarb Pie—1 cup cut rhubarb, 1 cup sugar, 1 tablespoon flour, 1 tablespoon melted butter, 2 eggs. Mix the flour, sugar and yolks of eggs; add fruit and butter. Bake this in a single crust. Heap the pie lightly with meringue sprinkled with nutmeg, and brown it delicately in the oven.—Kansas Industrialist.

HANGING BASKETS.

Hanging baskets are made of wire-work, earthenware, or wood and have a piece of wire or a small chain attached for suspending them. Regardless of the material used, there should be holes in the bottom for drainage.

In preparing the basket, especially one made of wire, a layer of moss one inch deep should be spread over the bottom and sides of the basket to hold the soil and prevent water from washing through. Ordinary potting soil consisting of one-half garden loam, one-fourth rotted manure and one-fourth sand is used to fill the baskets.

For the center of the basket, rather low, compact growing plants are preferable. Such as geraniums, coleus, dracaenas, ferns, alternantheras, and sweet alysum. Around the edge of the basket are placed plants of a drooping or trailing habit to hang over the sides. Lobelias, creeping myrtle, and Wandering Jew are among those which may be used. Other plants which appeal to the grower's taste may be substituted.

To water the basket it may be dipped in a tub or basin until thoroughly soaked or it may be sprinkled with a watering pot in the usual way. If a layer of moss is placed over the surface between the plants, less water will be required and the basket will present a neater appearance. In dry weather the basket will need to be well watered every day.

In order to have the plants bloom freely, the basket should be hung where it will be exposed to the sun for two or three hours each day.—R. A. McGinty, Colorado Agricultural College.

REALM OF IMMORTAL SPIRITS.

Editor Rural World:—Should we go back in imagination to ages and centuries of duration more numerous than the sands of the seashore, we would find the Deity then in existence, for "He inhabiteth eternity," as well as immensity. Would it be reasonable to suppose that a being whose existence can never terminate, and whose perfections are the same at all periods of duration, should, innumerable ages before our world was peopled, be the sole occupant of infinite space, and that all regions of universal nature should be destitute of material existence, and also of mind? Would it not be preposterous to suppose that a being who is so communicative of happiness to His creatures, should prefer to remain in solitude during all of those ages? There is nothing repugnant either to reason or revelation to suppose that world formation was going forward during the ages anterior to the existence of man, or during the formative period of the earth and planetary system, which process may have extended over a period of many thousands of years, as a day, mentioned in sacred history, is of uncertain length, and is not always limited to 24 hours.

Men hold to preconceived opinions with a firm grasp, and it is difficult to convince them against their will. It would appear to us to be a very foolish thing for a being of infinite wisdom to remain in solitude and let everything stand still in the universe for innumerable ages, such a course would not comport well with the dignity of an all-wise and all-powerful being. It would seem to us to be a very curious circumstance that creating power should be withheld for a period of vast duration, and then suddenly, worlds and systems of worlds would be springing up everywhere throughout the boundless regions of infinite space, and then, after a limited period, total cessation from

world structure would take place and continue forever. Creative history of that kind would be in accordance with most men's views, but then we are limited beings with moderate reasoning powers, and we often go astray.

New stars and new creations are comparatively scarce in our day, but then we must remember that we only get a glimpse of a small part of the universe, and that the numbers of such bodies in the aggregate may amount to a large number.

The Creator has constructed our organs of vision in such a wonderful manner that we can see the light which emanates from luminous bodies hundreds of billions of miles distant from our earth, but the stars themselves are invisible, owing to their immense distance from us. I have often thought it was providential that we are allowed to get a glimpse of those orbs, as by this means we will be inclined to reach out and study the mechanism of celestial objects, and thereby the glories of the Divine empire will appear.

Were the scene of omnipotence confined chiefly to our world, as many suppose, we might in the course of time, become able in some measure to comprehend the Creator, as the theater of His operations would be too small to display the divine attributes of wisdom, power and goodness, and nothing further would remain to stimulate the exercise of our rational faculties. The Creator has implanted in the human breast a strong desire for happiness, and that is the reason why so many are striving for wealth, we are never satisfied with present attainments, but are constantly reaching out to grasp something new, something more important than we have yet attained to. Some of us have strong desires for the expansion of our intellectual views, we hurry to get the latest news, we tear the wrapper from the journal and eagerly devour the contents thereof.

In the immortal existence beyond the tomb we will have the same desires after progressive improvement in knowledge and happiness that we have here, but we will obtain these things in a different way over there. Many things which are necessary for our comfort and convenience here will be useless there, but as the ages of eternity roll away we will, among other things, learn of the glories of the celestial kingdom, and of its inhabitants, and as in the future world the souls of men will dwell in bodies of exquisite perfection, our mental powers will be far more acute, and the acquisition of knowledge will be more rapid there than here. One of the most renowned scientists and theologians that our world has ever produced, originated the idea that in the future state the souls of men will hold converse with immortal spirits in other worlds, and that distance and the voids of immensity will be no barrier to the transmission of ideas and sentiments to immortal intelligences who dwell on distant worlds. This is a bright idea, and one that we should reflect upon. I will probably have more to say about this matter in future.

J. M. MILLER.

WHO IS THE GREATEST?

We have read of kings and monarchs, and the conquests they had won; How some ruled their nation wisely, and the noble deeds had done, And how heroes of our navy won for us many a fight; But we've overlooked the mother who had trained her children right.

We have read of how some statesmen served their native land so well; How the generals gained the victories ere on battlefields they fell; And how patriots of our country did their duty with delight;

SPRING SICKNESS

COMES TO EVERYONE

Spring sickness comes in some degree to every man, woman and child in our climate. It is that run-down condition of the system that results from impure, impoverished, devalued blood. It is marked by loss of appetite and that tired feeling, and in many cases by some form of eruption.

The best way to treat spring sickness is to take Hood's Sarsaparilla. Ask your druggist for this all-the-year-round medicine. It purifies, enriches and revitalizes the blood.

BEAUTIOLA

The Popular, Magical and Guaranteed Beautifier. The counterfeits. Send \$1 bill and you will receive by parcel post Beautiola and Beauty Cream, with full particulars. THE BEAUTIOLA CO., Dept. C, Beautiola Bldg., St. Louis, U. S. A.

The Boys' Magazine—FREE

Send today for a free sample copy of THE BOYS' MAGAZINE, the finest boys' publication in the world.

The Scott F. Redfield Co., 587 Main St., Smithport, Pa.

CANNERS

YOUR CHANCE! Start a business of your own. Make money causing. Quit thinking it's child's play. It's a chance for smart men and women to build up big mortgage-lifting business. Start small. Make YOUR PROFITS PAY FOR YOUR CANNER

Can beef, fish, all vegetables, fruits, berries, in tin or glass, for market or a better table. Portable canneries, all sizes, up to 10,000 cans daily capacity. We start you off—teach you—let you have small complete beginners' outfit—canner, cans, all tools. EVERYTHING you need and instruction book telling EVERYTHING you should know. Hurry, don't let your fruit rot. Learn how to start small, grow big and make your profits pay for your canner. Write for free catalog.

MONARCH MFG. CO., 360 Main, Chattanooga, Tenn.

BEE SUPPLY HOUSE

You need the latest approved supplies. Buy direct from the factory. 28 years of experience in making the goods you use; enables us to make the best for the price.

Early order discounts save you money.

Send for free catalogue today.

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WATCH RING & FREE
We give beautifully carved, gold, silver, thin model, ladies' small and men's large hunting or open case WATCH. The time keeper, guaranteed 5 years, positions all metal cases, including own like gold. Also in. Diamond ring set. FREE for selling 20 pieces of our high grade, gold, silver, diamond, and other jewelry. Write for free catalog.

IDEAL WATCH CO., Dept. 325 ELMIRA, N. Y.

But we've overlooked the mother who had trained her children right.

We raise statues for the noble who have done some mighty work. Who have acted very wisely and their duty ne'er did shirk; And we praise religious heroes who proclaim the truth and light; But we've overlooked the mother who has trained her children right.

Now we'll stop and just consider how the mothers of the land do so teach their children justice and guide them with loving hand; And the sacrifice they're making to train the youth aright; And through mother comes the victory, she who trains her children right.

ALBERT E. VASSAR.

St. Louis.

Hyndman Peak, Idaho, the highest named peak in the state, is more than 12,000 feet high. Several unnamed peaks near it are of about the same elevation. All are on the divide between the Sawtooth and the Lemhi national forests.

CANS for FRUITS, SYRUPS and HONEY

Also Fruit Jars, Labels and Supplies

We ship any size order

NATIONAL CAN COMPANY, BALTIMORE, MD.

Distributing warehouses at Chattanooga, Tenn., and Galveston, Tex.

PORE EYES CAUSED BY FACE POWDER.

Face powder has its dangers the same as gunpowder. For several years occasional cases have come under the observation of oculists in which the patients, invariably women, complain of vision being blurred, inability to use the eyes for any length of time and severe itching of the lids. The slightest rubbing of the lids produces a marked redness of the eyes and only aggravates the itching. In severe cases the lids are frequently swollen from constant rubbing. There is a sticky, elastic secretion which, when being removed, pulls out in long strings. Microscopic examination of the secretion reveals masses of what appear to be crystals. Until recently no satisfactory explanation of the presence of these crystals in the eye has been given. Secretion taken from the eyes of two sisters suffering from this peculiar complaint were submitted to the professor of pathology of one of the university medical schools, who found that the crystals came from rice face powder. Seven other patients in which the same symptoms and microscopic conditions were found all used the same make of face powder. When the powder is applied to the face with a puff a portion of the fine dust is driven upward and lodges on the moist eyeball. The rice powder in the presence of the

tears then becomes mucilaginous in character and is not washed from under the eyelids. The powder produces the irritation, which is aggravated by rubbing. Those who use a chamois-skin in applying the powder are less liable to cause the fine dust to arise, which probably accounts for the condition not being found in every woman using face powder. The condition is quickly relieved by flushing the eye with boric acid solution. The irritation rapidly disappears when the eyes are kept washed out with a soothing eye-wash.

WARNING AGAINST PRESERVING AND CANNING POWDERS.

The attention of the Department of Agriculture has recently been called to the widespread use, especially in rural communities, of salicylic acid in putting up preserves. The head of a large drug and chemical supply house states that people living in Southwest Virginia, North and South Carolina, Kentucky, Tennessee, and Western Georgia, have been purchasing salicylic acid in quarter-pound packages for a number of years and that this practice has grown to an enormous extent. This dealer states further that only a few weeks ago he received an order from one wholesale grocer for 50 gross of these goods.

The department is aware that this practice is not confined to salicylic

acid under its own name alone, but that large quantities of this acid, and of boric acid as well, are sold under fanciful names as preserving powders or canning compounds at prices which are much in excess of their real value.

In the directions for use, the housewife is told to fill the jar with the fruit or vegetables, cover with water and add a teaspoonful of the powder. It is true that these powders may prevent the decay of the fruit or vegetable, but they also encourage uncleanly or careless work, and their excessive use may be attended with very serious effects upon the health. Salicylic acid is a medicine of the greatest value in acute articular rheumatism and certain other diseases. It is well known as a poisonous substance, and one of the evils which may accompany its use is derangement of the digestion. It is, therefore, plain that its extensive use in food may lead to disturbance of digestion and health.

It is entirely practicable to put up both fruits and vegetables in such a manner that they will keep indefinitely by sterilizing the products by means of heat, and there is no excuse for running any risk by the using of preserving powders. The Department of Agriculture has issued the following Farmers' Bulletins on canning and preserving:

F. B. 203 Canning Fruit, Preserves and Jellies.

F. B. 359 Canning Vegetables in the Home.

F. B. 521 Canning Tomatoes at Home and in Club Work.

These bulletins, which may be obtained without cost by applying to the Division of Publications of the department, give exact directions for canning and preserving foods without the use of preserving powders or canning compounds.

A TIMELY SUGGESTION TO FARMERS.

There is perhaps no other fruit grown that is more appreciated than the strawberry. Coming on in the early season as it does it fills a very important place on the table. Every farm garden should contain a small bed or a few rows for the family supply. Just at this season of the year all surplus runners should be removed from the vines in order to give the whole of the plant food to the old plant and the crop of berries. A mulch of clean straw, leaves, or hay can be placed closely around the base of the plant to protect the berries from dirt during the rainy weather.—J. S. Knox, Department of Horticulture, Idaho Experiment Station.

There is a considerable amount of yew in California, and makers of bows are seeking material there for archery sets.

PATTERNS FOR RURAL WORLD READERS.

In ordering patterns for Waist, give bust measure only; for Skirts, give waist measure only; for children give age only; while for patterns for Aprons, say large, small or medium.

9953. Ladies' One Piece Jacket. Cut in 5 sizes: 34, 36, 38, 40 and 42 inches bust measure. It requires 1½ yard of 44-inch material for a 36-inch size. Price 10c.

9954. Ladies' Skirt With or Without Tunic.

Cut in 5 sizes: 22, 24, 26, 28 and 30 inches waist measure. It requires 4 yards of 44-inch material with the tunic and flounce and 2 yards without. The skirt measures about 1½ yards at the lower edge. Price 10c.

9777. Ladies' Apron.

Cut in 3 sizes: small, medium and large. It requires 4½ yards of 36-inch material for a medium size.

9939. Ladies' House Dress.

Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 4½ yards of 44-inch material for a 36-inch size. The skirt measures about 1½ yards at the foot.

9930. Girls' Dress with Body Lining.

Cut in 4 sizes: 6, 8, 10 and 12 years. It requires 3 yards of 40-inch material for an 8-year size. Price 10c.

9944. Girls' Dress With or Without Tunic.

Cut in 4 sizes: 8, 10, 12 and 14 years. It requires 3½ yards of 44-inch material for a 12-year size.

9954. Misses' and Ladies' Middy Suit.

Pattern is cut in 3 sizes for Misses: 14, 16 and 18 years, and in 5 sizes for Ladies: 34, 36, 38, 40 and 42 inches bust measure. It requires 5½ yards of 44-inch material for a 36-inch size, and 5½ yards of 44-inch material for a 16-year size. The skirt measures about 1½ yard at the lower edge.

9883-9880. Ladies' Costume.

Waist 9883 cut in 6 sizes: 32, 34, 36, 38, 40 and 42 inches bust measure. Skirt 9880 cut in 5 sizes: 22, 24, 26, 28 and 30 inches waist measure. It requires 5½ yards of 44-inch material for a 36-inch size, to make the entire dress. The skirt measures about 1½ yard at the lower edge. **TWO separate patterns 10c FOR EACH.**

These patterns will be sent to RURAL WORLD subscribers for 10 cents each (silver or stamps).

If you want more than one pattern, send 10 cents for each additional pattern desired.

Fill out this coupon and send it to COLMAN'S RURAL WORLD, 718 Lucas Ave., St. Louis, Mo.:

Pattern No. Size. Years

Bust. In. Waist. In.

Name

Address



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YOU CAN BUY, SELL OR EXCHANGE MOST ANYTHING IN THESE COLUMNS AT THE LOW RATE OF

One Cent a Word Each Insertion.

In this department we will insert your advertisement under a classified head for 1 cent a word per issue. Initials and numbers count as words. These little ads. are read by thousands and give results. No ad. accepted for less than 25 cents, cash to accompany order.

SMALL ADS. DO BIG THINGS.

TRY A CLASSIFIED AD.

HELP WANTED.

THOUSANDS of Government positions open to men and women over 18. \$90 month. Vacations. Short hours. Write immediately for free list of positions now available. Franklin Institute, Dep't. G 168, Rochester, N. Y.

HUSTLING man under 50 years wanted in each locality. To join this society and introduce our new memberships. Part or full time—\$50.00 to \$500.00 monthly. Experience not required. Address, The I-L-U 2021, Covington, Ky.

AGENTS.

1,000 AGENTS wanted at once, to sell the Imperial Self-heating Iron or women; salary or commission; \$15.00 to \$20.00 per day profits; experience unnecessary; sells at sight. Imperial Sad Iron Co., Memphis, Tenn.

FARMS AND LANDS.

RIGHT COUNTRY, right climate, right people, right prices, right terms. Write Development League, Bessemer, Michigan.

WANTED FARMS from owners for sale. We have direct buyers. Send description. Magazine, "particulars" free. Western Sales Agency, Minneapolis, Minn.

WANTED—To hear of good farm or improved land for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

IF YOU WANT farms or ranches in the Ozarks of Missouri, farms from 40, 80, 160 acres and up, at price from \$20.00 and up, write A. J. Johnston, Merchants Nat'l Bank bldg., Springfield, Mo.

FARM FOR SALE—1,600-acre farm and stock ranch for sale at low price, land is rich black sandy loam; nearly all level. Ranch is stocked with fine cattle. Will sell ranch and cattle together, or will sell ranch alone. It is on main line of Rock Island R. R., and two miles from good shipping point. Abundance of fine, cold water, never failing. This farm is all rich agricultural land, capable of producing good corn, wheat, oats and barley, and just the home of all kinds of corn and sorghum families. This is a first-class cattle country. Our native grass, the Buffalo, can not be excelled for grazing and fattening. The present owner has raised upon this land per acre corn, 55 bu.; wheat, 30; oats, 50; barley, 50; kafir corn, 40; sorghum, 40 bu. Land adjoining this farm has a prospect at present for a 30 bu. wheat crop; farm is all neatly fenced and cross fenced; land all in one body and operated as one farm; exactly suited for a man that wants to farm and stock raise on rather large scale, or can be conveniently divided into three or more farms with but little expense. No encumbrance; title the best; price, \$25.00 per acre, part cash, balance time, 6 per cent. If parties wishing to buy will deal direct with me, they can save big commission. I am going to make this a good proposition to the right man. References if desired. Address the owner, M. E. Dahmer, Mississ, Meade county, Kansas.

LIVE STOCK.

SPLENDID BERKSHIRE Service Boars \$35 each; also fine weaned pigs \$10 each. Prolific, healthy stock. H. H. Shepard, Pasadena, Mo.

POULTRY.

BARRED ROCKS, Bradley strain. Eggs \$2 per hundred. Mrs. Nelson Havens, Linby, Ia.

SINGLE COMB Rhode Island Reds. Eggs for hatching and baby chicks. E. A. Miller, Kalona Iowa.

SINGLE C B MINORCAS and Rose Comb R. I. Red. Stock and eggs. F. Kremer, Manchester, Okla.

FOR SALE—Full-blooded Mammoth Pekin ducks. Eggs \$1.00 per setting. Mrs. A. Brower, Rinehart, Mo.

SINGLE COMB Brown Leghorn eggs; from select and matured stock; \$2.00 per 50; \$3.50 per 100. Rosa Simpson, Palmer, Ill.

FAWN AND WHITE Indian Runner duck eggs. \$2.00 per 13; Barred P. Rocks, \$1 per 13. J. Gilbert, Webster Groves, Mo. R. 4.

ROSE COMBED Brown Leghorns, Kulp strain, eggs for hatching, \$1.00 per fifteen. Mrs. Albert Johnson, Windsor, Mo. R. 21.

RINGLET BARRED ROCKS—Eggs, \$1.50 setting, \$4.00, 50; \$5.00, 100; fair hatch. M. L. Stamper, Clifton Hill, Mo.

SINGLE COMB Brown Leghorn eggs, 15 75c, 30 \$1.50, postpaid, or \$2.90 100. Mrs. F. H. Streeter, Hamilton, Mo.

BARRED PLYMOUTH ROCKS, exclusively eggs. 75c for 10, \$4.00, 100. Well barred. Fresh eggs. Mrs. H. C. Luttrell, Paris, Mo.

BARRED PLYMOUTH ROCKS—Both matings; eggs reasonable for the quality. Won 1st, 2d and 5th pullets, 1st, 2d, 3d and 4th cockerels, and 1st and 2d hens at Jefferson City, Mo., with 143 Barred Rocks on exhibition. W. W. Graves, Jefferson City, Mo.

SEED AND NURSERY STOCK.

EARLY BROWN soy beans, high yielding \$2.25 per bushel. Seeds and inoculation free. Alden Coulter, Mays, Ind.

GERANIUMS, double crimson, scarlet, pink, white, strong stock pot plants 5c, doz. 75c; salvia 5c, doz. 45c; cannas, started 75c; any color 6c, doz. 60c; begonias, coleus and verbenas, pot plants 5c, doz. 50c. Postpaid. Satisfaction guaranteed. Fred Hallows, Florist, Bowling Green, Mo.

PRINTING.

DID YOU GET YOURS? One Year Farm Record Book, 25c, and free samples of distinctive printing for farmers and stock raisers. Call Printery, 103 Market, Troy, Ill.

DOGS.

FOX, WOLF, HOUNDS. List free. J. D. Stodghill, Shelbyville, Ky.

MISCELLANEOUS.

WANTED—To buy 5,000 mink and foxes. \$2.00 to \$5.00 each. Beechhurst Co., Shelbyville, Ky.

WANTED a location to practice as a veterinarian in a good live town in Mo., 25 years' experience in treatment of all diseases. Dental work a specialty. Dr. G. W. Merritt, V. S., New Florence, Mo.

NOTES FROM AN ILLINOIS FARM.

Editor Rural World:—This is May 9th and we are just starting the planter. We have had some trouble in getting seed. When Mr. Lyon found that his corn did not test well, and returned my money, I sent to Johnson county, Indiana, the home of "Johnson County White." Sent to a man who is said to have taken a great many firsts and championships and expected pretty good corn. In fact, he was so highly praised in a "write-up" in a farm journal giving his picture and "ten best ears in the world" that I was silly enough to order shelled corn.

Right here we want to say "never order shelled seed corn unless you know your man."

He shipped by express and the cost was nearly 50 cents a bushel. The corn had not been butted, tipped nor graded, and the best of it is poor stuff. We graded it and took out half a bushel from two and a half bushels. If there is anything meaner than knowingly to sell a neighbor bad seed corn, I don't know what it is.

We fear that a great deal of bad seed will be planted. Not one percent of the corn is planted here to date, May 9.

Our wheat looks well, as it does everywhere; in fact, Uncle Sam says we are to have 120 per cent of the 1913 crop. If so, we will probably get 75 cents for it.

Corn is selling at 80 cents and hay can hardly be had at any price, so many are depending largely on grass for their teams. It is pretty thin feed for teams that work hard.

Horses that are kept in the barn at night should be watered before being fed in the morning. How would you like to go 12 hours and eat two meals without any water or other liquid?

Thanks to Mrs. Dick for her kindly mention of our "notes." It seems that she admires "The Bridge" and "The Rainy Day." So do I, though written in a rather sad strain.

A great many lives are "cold, and dark, and dreary" from pure selfishness, and others are so from conditions over which we have no control.

"Tis true, 'tis pity, and pity 'tis 'tis true" that few of us do what we can to make the lives of those about us brighter.

When we lived in Colorado and became a little blue, I would say to wife "Let's go to see Miss D., she is always in the 'cheering-up business.'" Now, Miss D. was alone in the world; a cripple on crutches; obliged to make her own living, but she always had a smile and cheery word for everybody. God bless and multiply the Miss D.s.

AGRICOLA.

INTERESTING GAMES.

We want to thank the editor of the Rural World for the beautiful dinner set they sent us for getting the 16 new subscribers, the 40 postcards also were fine, it was quite easy to get the subscribers with the needles as premiums.

I will tell you the way to play an interesting game where there is a crowd of grown people. It is called character game. Send one from the room and while he is out choose some person—his sweetheart, his minister, himself, or even the worst person you know, will do, when he returns to the room he asks each one in turn what any object in the room is good for and they tell what the chosen person is good for, some character of his (or her's) and at each person he guesses who it is. The one that he guesses from leaves the room next time. This game causes a great deal of merriment.

We have planted so many dahlia roots with manure under each hill as they are great feeders. We always put manure under the hills of the following vegetables: Melons, cucumbers, sweet potatoes, tomatoes and cabbage.

I wonder how many of the Home Circle sisters work in the garden. Our children love to quote this verse while we are in the garden: "Our hearts are the gardens, sow good seeds, cultivate the flowers, pull up the weeds."

NETTIE B. RICHMOND.
Polk county.

FREE

33 PIECE
DINNER SET
AND
41 EXTRA
PRESENTS74
ARTICLES
ABSOLUTELY FREEI Want to Send You
This Dinner Set

Our plan for distributing these dinner sets is very, very easy. You don't have to send us a penny of your money, and the little kindness we ask of you can be done during your spare time, when you are visiting your neighbors.

Here's What You Get.

The complete set of dishes contains 33 pieces.

- 6 Dinner Plates.
- 6 Saucers.
- 6 Cups.
- 6 Butter Dishes.
- 6 Cereal or Fruit Dishes.
- 1 Large Meat Platter.
- 1 Large Cake or Bread Plate.
- 1 Deep Vegetable Dish.

Famous Rose Decoration.

The beautiful, dainty American Beauty Rose decoration is the most popular design ever offered our readers. The bright red roses and the rich green foliage stand out clear and brilliant in the center of each piece, and to make the effect even more charming a rich gold border of gold is run around the edge of each dish, thus giving the complete set an individuality and attractiveness not found in other dinner sets.

Will Last For Years.

The dishes are made of pure white ware, and are for hard usage as well as beauty. They are stronger and bigger than most dishes and with ordinary care will last for years. They will not glaze or get streaky like most dishes and the rose and gold decoration is burnt into each piece and will not wear off.

You could not wish for a more complete set of dishes than this—33 pieces.

Made by a Famous Pottery.

Any woman will be proud of our famous American Beauty Rose set which is complete and beautiful. They are for every-day usage as well as for Sundays, and are the product of the famous Owen China Company, of Minerva, Ohio. We guarantee them to be genuine Owen Chinaware.

OUR EASY
OFFER

The coupon starts everything. Sign it and we will send you a large illustration in colors, showing this beautiful Dinner Set with its handsome decorations of red, green and gold.

We will also send you a sample needle case, containing 100 different needles for every purpose, and 15 darners, bodkins and large needles—a total of 115 needles.

Our Dish Plan Is So Very Easy.

When you get this handsome needle case I want you to show it to 16 of your neighbors and friends and get them to hand you 25 cents each in connection with a special offer I will tell you about when I send you your needle case. When you tell them about our great offer they will thank you for the opportunity to help you. Each person who hands you 25 cents is entitled to a complete case of these famous needles. I will send the needle cases to you so you can hand them to your friends when you tell them about our offer. In addition to the needle case each person also gets a special subscription to our big farm paper.

You Will Be Surprised.

You will be surprised how very, very easy it is to get this set of dishes. No previous experience is necessary. When you get your dinner set you will be delighted and all your friends will envy you.

It is so very easy to get this set of dishes that many of our readers earn two, three and even more sets, and sell the extra sets to their friends at a big profit. Now, if you haven't already signed the coupon below, do so before you forget about it.

Sign the coupon—it starts everything.

41 EXTRA
ARTICLES FREE

Our plan is full of SURPRISES and LIGHTS for those of our friends who are willing to lend a helping hand at spare times.

The very first letter you get from us will surprise you before you open it. It will also delight you by telling all about the big 40 piece post card collection which we want to give you in addition to the dishes. We give you the 40 post cards for being prompt.

These beautiful post cards will not only please you—but they are so rare and attractive and printed in such a gorgeous array of colors that you will be delightfully surprised.

Another Present for Promptness.

And still, THAT is not all. One of the prettiest surprises of all is kept a secret until the day you get the dishes and find a pretty present that you know nothing about.

Isn't this a fascinating idea?

And what makes it more so is that we have something nice for everyone of your friends and neighbors, too. We'll tell you ALL about it as soon as we receive the coupon with your name on it.

The coupon starts the whole thing—Sign it before you forget it.

Mail This
Coupon
Today

Colman's Rural World,
St. Louis, Mo.

I want to get a 33 piece dinner set and the 41 extra gifts. Send me the sample needle case, picture of the dishes in color, and tell me all about your big offer.

Name

P. O.

R. F. D. State

**BROTHERHOOD AND EQUAL
RIGHTS FOR ALL.**

**AMERICAN FARMERS WHO KNOW
HOW.**

Farmers in America have grown as rapidly in grain business as the Au-

This page is open to farmers who

The corn laws—tariff laws prohibiting the import of grain—brought more distress, especially in 1826 when there was a terrible drouth. The people had to buy water to drink, and were kept

This brief history of English landlordism and its terrible results would be of no value to us were it not for the fact that landlordism is on the increase in this country. With landlordism comes farm tenantry and with tenantry comes depleted fertility, dead churches, poor country schools, and a general movement of rural population to the cities and a high cost of living. In fact, history will repeat itself if we give it a chance. We must not give it a chance. We must so devise a system of taxation that landlordism will

30 Days
FREE
 Trial

\$2.25 A Month Buys

A GENUINE

KIMBALL

Organ

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Music Instructions
by Our New Dia-
gram System if you
WRITE AT ONCE.

makers at factory prices. We will send them to
the noblest people anywhere, to be paid for in our extremely easy
payment plan—**\$2.25 monthly and upwards, if desired.**

Operating the largest organ factory in the world,
employing the largest capital, buying raw materials
in the greatest quantity for cash—the Kimball sys-
tem of manufacturing and distributing positively
saves you **\$25 to \$50** on strictly first class organs.
If you want an organ at all, you want a good one.
A more trustworthy will be made in it, will not get better at
once the old reliable Kimball Organ **At Factory Prices** and pay
on convenient terms.

You can now buy
the famous Kimball
Organs direct from the
makers at factory prices. We will send them to
the noblest people anywhere, to be paid for in our extremely easy
payment plan—**\$2.25 monthly and upwards, if desired.**

Valuable Features of the Kimball

For half a century Kimball Organs have
been regarded as standard and America's favorite.
They are famous for their beautiful tones and extraordinary
value quality. The Kimball has many important new features
that make them not only the sweetest toned and most reliable
organs in the market today. Try one in your home at our company.

Send Today for Money-Saving Plan and
Free Catalogs. Under no circumstances can
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not have the upper hand. We must make it possible for the tenant to become a farm owner.

Under present conditions we have as much inflation of farm values as we have of railway stock values. There's a lot of "water" in land values today and it is due to speculation.

Before closing I wish to say that our own aristocracy (of wealth) is keeping alive the war spirit with its tremendous tax upon the people—which tax comes through the many indirect methods that hit the poor but which can be escaped by the rich. Just as the rank and file of army and navy comes from the homes of the middle class, so do the taxes for their support. Just as the men higher up get out of facing bullets in time of war so do they get out of paying the taxes of war. Let us do some plain thinking—Alson Secor, in Successful Farming.

A GOVERNMENT RAILROAD.

We are about to engage in the experiment of a government built and operated railroad. The law recently enacted contemplates the construction of 1,000 miles of railroad in Alaska, which will connect the great coal fields with the coast. The work will come under Secretary Lane, who is believed to be particularly well qualified.

This experiment will be watched with interest by the people of the United States. While there is not a well defined sentiment for government ownership of railroads generally at the present time, such sentiment has certainly been growing, and if our Alaska experiment should work out favorably, it will greatly stimulate the sentiment for public ownership of lines in the states.

AN EXPERIMENT IN PERPETUAL TENANCY.

The government of New South Wales is inaugurating an experiment, the result of which will be watched with interest over the civilized world. They have opened up a district which will eventually mean about half a million acres available for irrigated farming, which they expect in time to carry a population of 50,000 souls. The government purchased the land which it was proposed to irrigate; built its dams and main and distributing canals. It then decided that it would retain control of the land, and lease it in perpetuity to tenants. Six hundred have made application the first year.

The government assesses the value of the unimproved land at about \$100 per acre, and bases the rental on 2.5 per cent of this unimproved and irrigated value, or \$2.50 per acre. There is to be re-appraisal of this land at extended periods, on which the 2.5 per cent will be charged. The tenants make all their own improvements, and have a right to sell or transfer the lease. This gives the tenant practically freehold possession. He is as much a fixture as if he owned the land outright.

This reminds us of the land system put in force by Moses and Joshua when they divided up the land of Palestine. They simply leased it to the children of Israel for 50 years, the bottom principle being that "the land is the Lord's." The tenant paid a tithe, or land tax of one-tenth of the gross proceeds, for the support of the religious and civil institutions of the country. That system broke down under the kings, because men like Absalom and Joab began to acquire large estates; in what way we don't know. It is an interesting experiment, however, particularly at this time, when the subject of land tenure and the relations of landlord and tenant are being discussed all over the civilized world.

Suppose, for example, that the United States, instead of giving the land away in the shape of homesteads and railroad grants, had put a value on it say of \$1.25 or \$2.50 an acre, allowed a man to make improvements as he saw fit, and pay the taxes on it whether he made improvements or not, but still retaining possession. We can see at once that we would have had an entirely different civilization. There would have been no trans-continental railroads, unless the government had built them, and doubled the price of

land and the rent, as they did, within a certain distance of the railroad. Land would naturally have been surveyed out in economic areas, differing in different sections. If the land had not been surveyed out in economic sections, it would have been divided in the same way. There would have been no large estates; but if the acreage allotted was not sufficient to support a family, they would have been doubled up; or if too much, they would have been divided.

This, of course, is only an experiment, but it is an interesting one, one worth watching. It is too late to try it in this country.

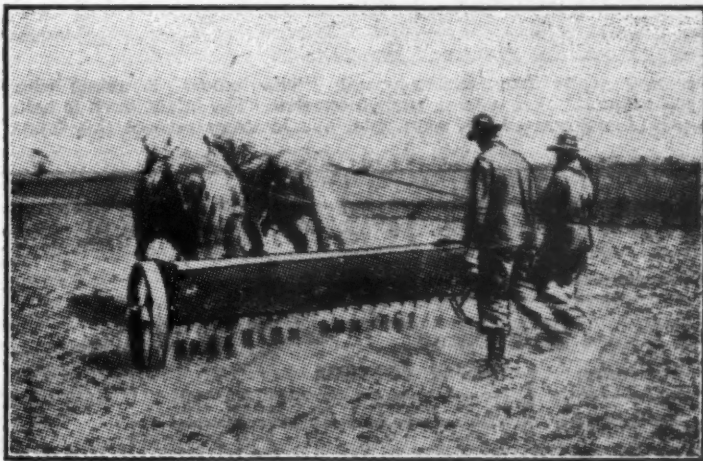
SINGLE TAX.

Improvements such as buildings, plants and crops are exempted from taxation in California irrigation districts. This single tax has been in effect since March, 1909, so far as is concerned the raising of public funds to pay the interest and sinking fund of irrigation bonds. The farmer who improves his land is not taxed for the benefit of those who hold their land for speculation or who fail to utilize or improve it. Old districts have the privilege of coming under the new law. When Modesto did so, it was because the change was advocated by farmers who had watched its workings in the newer districts. It is only fair to say that the application of the same principle in British Columbia and in some towns of northwestern Canada is meeting with considerable favor. The difficulty remains, however, of assessing land values for taxation upon a basis that is equitable to all.

FARMING IN PIKE.

Apropos of a statement that the railroads were laying off men as a bluff to get permission to raise freight rates, President Rea of the Pennsylvania railroad smiled ironically and said:

"He who should try to prove today that the railroads are prospering



PREPARING THE SOIL.

would get as mixed up as the Pike county farmer.

"An angler said to a Pike county farmer:

"You can't raise much on these stony hills, I reckon?"

"Oh, yes, stranger, we generally get fine crops," the farmer replied.

"But you don't raise much grain?"

"Sure we do. We raise barley. We raise a sight of barley back here in Pike. I don't know what we Pike county farmers would do if it wasn't for our barley crops."

"What do you get for the stuff?"

"Oh, we don't sell it. We don't sell a grain of it."

"Do you feed it to your stock?"

"Feed it to our stock? No, siree! You don't catch us wasting barley like that."

"Well, what in thunder do you do with it, then?"

"Why, we save every grain of it for seed; that's what we do with it."

CO-OPERATION AT WORK.

In his address before the Second National Conference on Marketing and Farm Credits and the Western Economic Society here, H. J. Eustace, professor of horticulture, Michigan Agricultural college described the organization and management of the Cali-

fornia Fruit Growers' exchange. The discussion included all the steps in the methods of the exchange from the time the fruit is picked by the 6,500 growers who are members until it is sold to the retailers on the markets throughout the country. This exchange is probably the largest and most successful co-operative organization of fruit growers in the world. Over 60 per cent of all the citrus fruits grown in California are picked, shipped and sold by the exchange.

The yearly volume of business amounts to 20 millions made up entirely of returns for fruit and receipts for supplies necessary to grow and market the fruit.

So well has the organization of the exchange been perfected and managed, according to Professor Eustace, that it is possible to market this immense volume of citrus fruit at a cost of less than 5 per cent. It is doubtful if any agricultural crop in this country is marketed at so low a cost. This low marketing cost is one reason why the

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SHIPMENTS ANYWHERE.

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nia orange cannot be purchased at a nominal price at any time during nine or 10 months in the year.

The government authorities have recently announced that Los Angeles county in California is the richest agricultural county in the United States. Thousands of acres are located in this county, and a large per cent of the grove owners belong to the California Fruit Growers' exchange. Without doubt the agricultural prosperity can in a large measure be accounted for by the good results from thorough honest mutual co-operation.

In addition to co-operating in the packing, shipping and selling citrus fruits it has been possible and is highly desirable for the members of the California Fruit Growers' exchange to co-operate in the purchasing of supplies. This is done through a department of the exchange known as the "Fruit Growers' Supply Co." As the supplies are purchased in very large quantities so in turn low prices can be quoted to exchange members. Many thousands of dollars' worth of box material, wrapping paper, nails, labels, fertilizers and other supplies are sold to members at a great deal less than would be possible to unorganized individual growers.

KILLING DANDELIONS.

Cut the dandelion roots off below the surface of the ground.

Gasoline or kerosene, applied at the crown of the dandelion, will kill individual plants.

When only a few stray plants appear persistently use the spud, or knife.

On badly infested lawns, good results may be obtained by spraying with sulphate of iron.

Use 1½ pounds of iron sulphate, which can be purchased at any drug store, to 1 gallon of water, remembering that it will discolor clothing and cement walks.

Apply the spray three days after lawn is cut, on a bright day when the possibilities of rain are slight.

The solution should be applied with a sprayer which gives a fine mistlike spray—a sprinkler is not satisfactory.

The lawn should be sprayed about once a month during the summer, and not cut or watered for three days after the solution is applied.

Whatever method of eradication is used, it is always well to reseed the lawn in April, June, and September.

For reseeding, eight or ten pounds of seed should be used on a lawn 100x150 feet. The seed should be sown broadcast, raked in, then watered.

A good lawn-grass mixture is 14 pounds of Kentucky blue-grass, two of white clover, and two of redtop seed—buy good clean seed and mix it yourself.

With the thickening of the grass and the use of fertilizer, many of the dandelion plants will be crowded out.

Besides this reseeding, it is well to scatter nitrate of soda over the lawn before a rain or just before the lawn is sprinkled. Fifty pounds will fertilize a lawn 100x150 feet.—W. L. Oswald, Assistant Agricultural Botanist, University Farm, St. Paul.

Late cabbage may be sown in the cold frame or open ground.

MANY VALUABLE PRESENTS FREE

In the next three months we are going to give away \$10,000 worth of useful and valuable presents to advertise the People's Supply Company. We want at least one person in every town to have one or more of these splendid presents, and we want the good friends and readers of Colman's Rural World to be the first to have their choice. These presents consist of Watches, Rings, Fountain Pens, Locket, Cameras, Suits, etc. Look over the list and carefully read the description of each and see what you prefer. We only have room to show you a few of the many presents you may select from.

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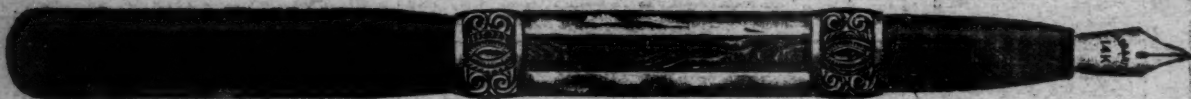
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Vanity Case

Made of rich German Silver which has an extra finish, and is decorated with fancy flower border. This case has a mirror of good quality, and powder puff compartment and places for quarters, dimes and nickels, also a strong catch that will hold cards and bills. Attached to this Vanity Case is a ten-inch chain. Size of case is 3 1/2 x 2 1/2.



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